SONY

CATALYST EDIT™

User Manual

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Chapter 1

Introduction

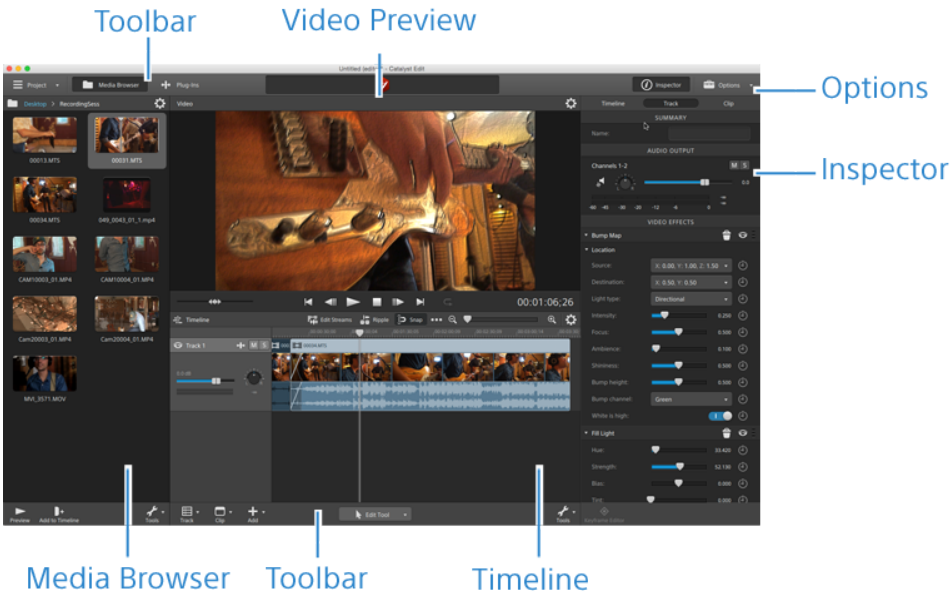
Catalyst Edit is your focused, fast cutting tool for 4K, RAW, and HD video.

Catalyst Edit focuses on HD, 4K, and Sony RAW video editing while you focus on creativity. Flexible timeline editing tools make working with 4K XAVC and Sony RAW files as easy as working with HD. At last, take full advantage of all the detail and high dynamic range color you shot. Catalyst Edit ends the multichannel audio nightmare with an innovative workflow that enables you to use your camera audio however you need to even without a degree in audio engineering. Catalyst Edit integrates tightly with Catalyst Prepare to provide continuity from the media prep stage to the editing stage.

The Catalyst Edit window

The Catalyst Edit window is divided into five main sections:

- The toolbars provide quick access to frequently used functions.
- The left side of the window displays the Media Browser (where you can browse your computer for media files to use in your projects) and the Plug-Ins pane (where you can browse the available video effects, generators, and transitions).
- The Video Preview displays the video frame at the cursor position and allows you to play back your project.
- The timeline is where you create projects. You can add tracks to organize your media clips and add clips to the tracks.
- The right side of the window can display the Inspector, which allows you to edit application options, properties for the timeline, selected track, or selected clip.



Chapter 2

Working with projects

A project file (.ceditprj) saves the relevant information about your source media: file locations, edits, insertion points, transitions, and effects.

A project file is not a multimedia file. It contains pointers to the original source files, so you can edit your project nondestructively. You can be creative without worrying about corrupting your source files.

Creating projects

The first step in creating your masterpiece is to create a Catalyst Edit project file (.ceditprj).

1. Click the **Project** button in the main toolbar.
2. Choose **New** from the menu to create a project.

   Press Ctrl+N (Windows) or ⌘+N (OS X) to create a new project quickly.

Opening projects

1. Click the **Project** button in the main toolbar.
2. Choose **Open** from the menu.

   Press Ctrl+O (Windows) or ⌘-O (OS X).

   The Open dialog is displayed.

   If you have not saved the current project, you are prompted to save your changes.
3. Choose the folder where the project you want to open is stored.
4. Select a Catalyst Edit project file (.ceditprj) in the browse window or type a name in the **File name** box.
5. Click **Open**.

Relinking project media

When you open a project, Catalyst Edit will prompt you to relink project media if the original clips cannot be found.

You can also use the Relink Project Media dialog to create a proxy-based workflow: create a project using lower-resolution proxy clips for efficient editing and then relink the proxy clips to their full-resolution versions before rendering or exporting your project. For more information, see "Rendering projects" on page 16 or "Exporting projects" on page 17.

1. Open a project. For more information, see "Opening projects" on page 11.

   If the clips used in your project are not found in their original locations, the Relink Project Media dialog is displayed.

   If you want to relink media manually, click the **Project** button in the main toolbar and choose **Relink** from the menu.

2. For each clip, the Relink Project Media dialog displays the original clip and its linked clip.

   Click a folder path and browse to a new location to choose a new location for your source clips.

   Click **Locate Folder** (if a clip is missing) or a clip's path and browse to a new file to choose a replacement file.

   Click the button to display the full path.

3. Click **Relink**. The clips are replaced, and your project is updated.

Saving projects

You can use the **Save** or **Save As** commands to save changes to the current Catalyst Edit project.

If your project contains unsaved changes, **(edited)** is displayed after the project name in the title bar.

1. Click the **Project** button in the main toolbar.
2. Choose **Save** to save the current project, or choose **Save as** if you are saving a new project for the first time or want to create a copy of the current project.

   Press Ctrl+S (Windows) or ⌘-S (OS X).

   The Save window is displayed.
3. Select the drive and folder where you want to store the project.
4. Type a name for the project in the **File name** (Windows) or **Save As** (OS X) box.
5. Click the **Save** button.

Using the Timeline Inspector

In the Inspector, select the Timeline tab to edit settings for your project timeline.

Click an empty area in the timeline below the last track, and the Timeline tab is displayed automatically if the Inspector is visible.

When you add the first video clip to a project, the timeline settings are automatically adjusted to match the media properties. For more information, see "Adding media and creating clips" on page 35.

Summary

Type a value in the **Name** box to set the title of the project.

Video

Item	Description
Width	Determines the frame size of your final movie when rendered.
Height	
Pixel aspect ratio	Type a value in the box to change the pixel aspect ratio of your project. Computers display pixels as squares, or a ratio of 1.0. Televisions display pixels as rectangles (ratios other than 1.0). Using the incorrect setting can result in distortion or stretching. Consult your capture/video output card's manual for the proper settings.

Item	Description
Frame rate	Type a value in the box to change the frame rate of your project. The ruler in the timeline is displayed using this frame rate. The television frame rate in the US, North and Central America, parts of South America, and Japan (NTSC) is 29.97 frames per second (fps). In many parts of the world, including Europe and much of Asia, the television standard is PAL at 25 fps. France, Russia, and most of Eastern Europe use SECAM, which is a variation on PAL and also uses 25 fps.
Grade in	Choose a setting from the **Grade in** drop-down list to choose the color space that will be used to display your project. Choosing the correct color space ensures that you see your video in the proper color space as you work. If you're using media from a Catalyst Prepare library ( ), ensure you're using the same **Grade in** setting in the Catalyst Prepare Options menu and the Catalyst Edit Timeline Inspector.

Audio

Item	Description
Sample rate	Choose a sample rate from the drop-down list to indicate the number of samples per second used to store audio. Your project audio is resampled automatically. To use a custom sample rate, choose **Custom** from the drop-down list and type a sample rate in the edit box.
Channel setup Channel count	Choose **Stereo** from the drop-down list to create a two-channel (stereo) project. Choose **Multichannel** and type a number in the **Channel count** box to create a multichannel project.
Gain	Drag the fader to adjust the volume of the main output. Double-click the center of the thumb to reset the fader. You can double-click the numeric value to type a new value. When adjusting volume, remember to watch your audio meters. Because you are adding the volumes of all of the tracks together, it is easy to clip the audio output. Make sure that the meters never display the red Clip indication during playback. For more information, see "Monitoring audio levels" on page 118.
Mute	Click to mute/unmute your project's audio output.

Channel Output

Click the speaker icon to turn a channel on or off .

Click the **Mono** or **Stereo** button to indicate whether a channel is a mono channel or part of a stereo pair. Enabling **Stereo** will pair the channel with the next channel in the list.

If you want to set all of a clip's channels at once, click the **Channel Tools** button and choose **Set all to mono**, **Set all to stereo**, or **Reset**.

Type a name in the edit box to identify the channel. For example, you might type **Lav1** to identify audio from a lavalier microphone.

Channels that are named identically in the Timeline Inspector and Clip Inspector will be matched.

When you add a clip from a Catalyst Prepare library ( ) to the Catalyst Edit timeline, any channel assignment settings that you made in the Catalyst Prepare library will be applied to the clip.

Video Effects

When the timeline has effects applied to it, you can use the Video Effects controls to control the settings for each effect. For more information, see "Adding effects to the timeline" on page 93.

Click the **Delete** button to remove a plug-in from the chain.

Click the **Mute** button to bypass a plug-in without removing it from the chain.

Drag a plug-in's heading to change its position in the plug-in chain.

Click the toggle arrow to show or hide each plug-in's controls.

Rendering projects

When you're finished editing your project — or when you want to see it in its final form — rendering converts your project to another format and creates a single file on your hard drive.

When you render your project, the project file is not affected (overwritten, deleted, or altered) during the rendering process. You may return to the original project to make edits or adjustments and render it again.

1. Click the **Project** button in the main toolbar.
2. Choose **Render** from the menu. The Render Project dialog is displayed.
3. Type a name in the **Name** box to identify your rendered file.
4. In the **Destination folder** box, type the path to the folder where you want to save the rendered file, or click **Browse** to choose a folder.
5. Choose a setting from the **Format** menu to indicate whether you want to create an AVC/AAC (*.mp4), DNxHD, Apple ProRes(OS X only), SStP, XAVC Intra, XAVC Long, XAVC S, or XDCAM clip.

   If you want to render an audio-only file, choose **MP3 Audio**, **Sony W64** or **WAV**.

   If you want to render an image sequence, choose **DPX** or **OpenEXR**.
6. Choose a setting from the **Render preset** drop-down list to choose the settings that will be used for the new file.

   Choose the **Best match** preset if you want Catalyst Edit to choose the most appropriate preset for your project timeline. For more information, see "Using the Timeline Inspector" on page 13.
7. If you're rendering to a format that supports multichannel audio, use the controls in the **Audio channels** box to map your project's audio channels to the channels in the rendered file.

   The left column represents the audio channels in the destination file. The drop-down lists in the right column represent the number of audio channels that have been configured for your project. For more information, see "Working with multichannel audio" on page 110.

   For each destination channel, choose an output from the drop-down list, or choose **Unused** to render silence in that channel.
8. Select the **Render loop region only** check box if you want to save only the portion of the project that is contained within the Mark In/Mark Out region. For more information, see "Marking in and out points for playback" on page 42.

   Loop Playback does not need to be selected for this option to work.
9. Click **OK**.

   Progress is displayed in the activity pane at the top of the Catalyst Edit window.

Exporting projects

Project-interchange tools add flexibility to your workflow, allowing you to exchange projects with other popular editing platforms.

For more information about supported features for exported projects, please see "Exporting projects: supported features" on page 18. Design your Catalyst Edit project with these features in mind to ensure a smooth interchange.

1. Click the **Project** button in the main toolbar.
2. Choose **Export** from the menu.
3. Use the Export Project dialog to choose a destination and format for your exported files.
    a. Choose an export format from the **Project format** drop-down list:
        - Apple Final Cut Pro X (*.fcpxml)
        - Adobe Premiere (*.prproj)
        - Avid Media Composer (*.aaf)
        - Sony Vegas Pro EDL (*.txt)
    b. Choose a setting from the **Media format** drop-down list if you want to transcode the storyboard's media to another format when exporting. If you want to link to the original clips in the original locations, choose **Do not transcode**.
    c. The **Destination folder** box displays the path to the folder where the project will be exported. You can type a path in the box or click the **Browse** button to choose a folder.
    d. Type a name in the **File name** box to set the file name that will be used for your exported project file.
    e. Click **Export**.

    Progress is displayed in the activity pane at the top of the Catalyst Edit window. If you have multiple export jobs queued, a separate progress indicator is displayed for each job.

    An HTML report file is created in the same folder as the exported project with details about the export. Any warnings or errors will be displayed in the report.

Exporting projects: supported features

Catalyst Edit supports the following features when exporting projects.

Design your Catalyst Edit project with these features in mind to ensure a smooth interchange.

Media Composer 6 (.aaf)

- Timeline (including frame rate)

  Catalyst Edit timelines are always exported as stereo.

- Markers
- Frame rate
- Clips

  Clips from nested timelines are exported to the main Media Composer timeline.

  Crossfades between nested timelines and other events in the parent timeline are ignored.

  Track volume, nested timeline track volume, and clip gain are summed and applied as clip gain in Media Composer.

- Audio channel routing (including timeline channel output and clip channel assignment)
- Clip audio fades and gain

  Audio clip gain and audio track gain are exported as clip gain.

- Overlapping clips
- Track gain (converted to clip gain)

Premiere Pro CS6 (.prproj)

- Timeline (including width, height, pixel aspect ratio, frame rate, and field order)

  Catalyst Edit timelines are always exported as stereo.

- Markers
- Clips (including nested timelines)
- Clip fades and gain/opacity
- Overlapping clips
- Title clips (multiline text, text angle, text color, background color, and shadow color are supported)
- Track gain, pan, mute, and solo

Final Cut Pro X (.fcpxml)

- Timeline

  Catalyst Edit timelines are always exported as stereo.

  Projects with multichannel audio will play through the left channel only in Final Cut Pro.

- Markers (timeline markers are exported as clip markers, and markers beyond the last clip are omitted)
- Clips (including nested timelines)
- Clip fades and gain/opacity

  Video clip gain is exported as clip opacity.

  Audio clip gain and audio track gain are exported as clip gain.

- Audio channel routing (including timeline channel output and clip channel assignment)
- Overlapping clips
- Title clips (title text, font, font size, bold, italics, alignment, color, shadow, outline, and rotation are supported)

  Please confirm font sizes in Final Cut Pro X after exporting your project.

- Track gain, pan, mute, and solo

Vegas EDL (.txt)

- Timeline

  Catalyst Edit timelines are always exported as stereo.

- Clips

  Clips from nested timelines are exported to the main Vegas timeline.

  Crossfades between nested timelines and other events in the parent timeline are ignored.

  Track volume, nested timeline track volume, and clip gain are summed and applied as clip gain in Vegas.

- Clip fades and gain/opacity:

  Video clip gain is exported as clip opacity.

  Audio clip gain and audio track gain are exported as clip gain.

- Audio channel routing
- Overlapping clips

Chapter 3

Finding media

The Media Browser pane allows you to browse the media files on drives and devices connected to your computer.

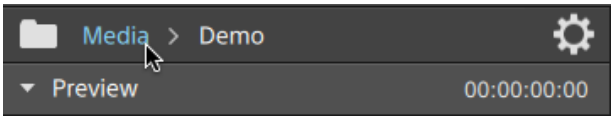
When you double-click a file in the Media Browser, it is added to the end of the selected track as a clip. If no track is selected, a new track is created. For more information, see "Adding tracks to a project" on page 43 or "Adding media and creating clips" on page 35.

Choosing a folder

Click the **Media Browser** button at the top of the Catalyst Edit window to view the Media Browser.

Use the Media Browser to browse your computer for video files.

The top of the Media Browser will display the current folder and its parent folder. You can click the link to the parent folder to navigate up one level.



To navigate quickly, click the **Tools** button at the bottom of the Media Browser and choose **Go to location**.

Displaying files in a list or thumbnail mode

Click the **Media Browser Settings** button to display the Media Browser Settings menu, where you can choose to view media in grid or list mode.

In grid mode, the Media Browser displays thumbnail images and file names.

In list mode, the Media Browser displays a simple list of thumbnail images and file names.

- Click a file to select it.
- Hold Shift and click the first and last file you want to select to select a range of files.
- Hold Ctrl (Windows) or Command (Mac) to select multiple files.

Click the **Select** button to select multiple files without using keyboard modifiers.

Showing source clips

1. Select a file.
2. Click the **Tools** button at the bottom of the Media Browser and choose **Show in Finder** (OS X) or **Show in Explorer** (Windows) to view the source clip in its containing folder.

Displaying media from a Catalyst Prepare library

You can also add media from Sony Catalyst Prepare libraries to your Catalyst Edit projects.

When you open a .cpreplib library ( ), the Media Browser displays all the media contained in that library sorted in bins. A separate bin ( ) is displayed for each storyboard.

You can also create clips by dragging storyboards or clips from the Catalyst Prepare window to the Catalyst Edit timeline. For more information, see "Adding media and creating clips" on page 35.

Previewing media from the Media Browser

Select a file in the Media Browser and click the **Preview** button at the bottom of the Media Browser to play it.

In grid mode, the video will play in the thumbnail. In list mode, a video preview is displayed above the file list.

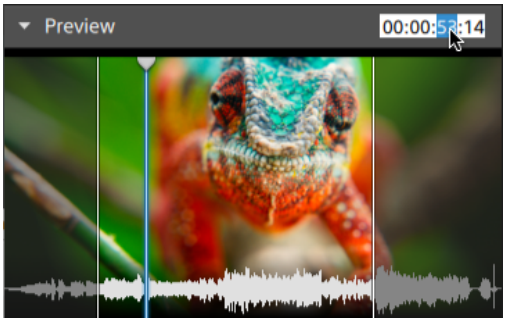
Click the **Media Browser Settings** button to display the Media Browser Settings menu, where you can choose to view media in grid or list mode.

During playback, the **Preview** button changes to a **Pause** button . You can click the **Pause** button to suspend playback, or playback will stop at the end of the selected clip.

When **Hover scrub** is selected in the Media Browser Settings menu, you can hover your mouse over the play cursor in the thumbnail (or the video preview in list mode) to change the playback position and scrub the media. When the button is not selected, you can click and drag the cursor to scrub.

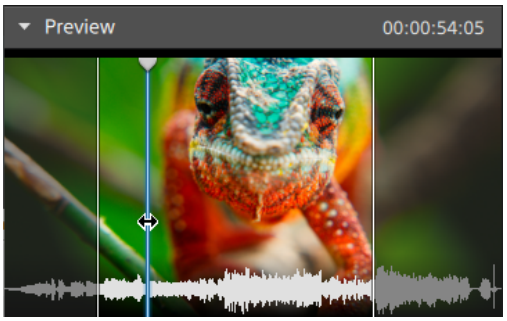
You can scrub the selected clip in the Media Browser using the JKL keys: press and hold K while pressing J or L to emulate a shuttle knob mode. Press K+J to scrub left or K+L to scrub right.

In grid mode, the audio waveform is displayed in the video preview to help you navigate the file, and the timecode above the video preview displays the current cursor position. You can click the timecode to type a new value and reposition the cursor.



Setting mark in/out points in the Media Browser

Mark in/out points are displayed in the Media Browser and allow you to add partial clips to the timeline.



- Press I to set the mark in point to the cursor position or press O to set the mark out point.
- You can also drag the mark in/out points to change their positions.

When you add a clip to your project, only the area between the mark in/out points will be added to the timeline. For more information, see "Adding media and creating clips" on page 35.

Managing SxS and Professional Disc volumes

If you need to format an SxS card, please use the Memory Media Utility.

If you need to format or finalize an XDCAM Professional Disc volume, please use the XDCAM Drive Software.

Supported video formats

Catalyst Edit supports reading the following video formats from volumes or as independent clips:

XDCAM

SD format

Format	Frame Size	Frame Rate	Field Order	Video Codec	Bit Rate	Audio Channels
DV	720x480	59.94i	Lower	DV	25 CBR	4x16 bit
DV	720x576	50i	Lower	DV	25 CBR	4x16 bit
MPEG IMX	720x512	59.94i	Upper	MPEG-2 Intra	30, 40, 50 CBR	4x24 bit / 8x16 bit
MPEG IMX	720x608	50i	Upper	MPEG-2 Intra	30, 40, 50 CBR	4x24 bit / 8x16 bit
Uncompressed	720x486	59.94i	Upper	Uncompressed	90 CBR	4x24 bit / 8x16 bit
Uncompressed	720x576	50i	Upper	Uncompressed	90 CBR	4x24 bit / 8x16 bit

HD format

Format	Frame Size	Pixel Aspect Ratio	Frame Rate	Video Codec	Bit Rate
MPEG HD	1280x720	1.0	50p, 59.94p	MPEG-2 Long GOP	25 CBR
MPEG HD	1280x720	1.0	50p, 59.94p	MPEG-2 Long GOP	35 VBR
MPEG HD	1280x720	1.0	50p, 59.94p	MPEG-2 Long GOP	50 CBR
MPEG HD	1440x1080	1.333	23.976p, 25p, 29.97p, 50i, 59.94i	MPEG-2 Long GOP	17.5 CBR
MPEG HD	1440x1080	1.333	23.976p, 25p, 29.97p, 50i, 59.94i	MPEG-2 Long GOP	25 CBR
MPEG HD	1440x1080	1.333	23.976p, 25p, 29.97p, 50i, 59.94i	MPEG-2 Long GOP	35 CBR
MPEG HD	1440x540	0.667	23.976p, 25p, 29.97p, Over Crank	MPEG-2 Long GOP	8.75 CBR
MPEG HD	1440x540	0.667	23.976p, 25p, 29.97p, Over Crank	MPEG-2 Long GOP	12.5 CBR

Format	Frame Size	Pixel Aspect Ratio	Frame Rate	Video Codec	Bit Rate
MPEG HD	1440x540	0.667	23.976p, 25p, 29.97p, Over Crank	MPEG-2 Long GOP	17.5 CBR
MPEG HD422	1920x1080	1.0	23.976p, 25p, 29.97p, 50i, 59.94i	MPEG-2 Long GOP	35 CBR, 50 CBR
MPEG HD422	1920x540	0.5	23.976p, 25p, 29.97p, Over Crank	MPEG-2 Long GOP	25 CBR

XDCAM EX

Format	Frame Size	Pixel Aspect Ratio	Frame Rate	Field Order	Video Codec	Audio Codec	Bit Rate
DV	720x480	0.9091	59.94p	Lower	DV	PCM, 48 kHz, 16 bit	25 CBR
DV	720x576	1.0926	50i	Lower	DV	PCM, 48 kHz, 16 bit	25 CBR
MPEG HD (EX-HQ)	1280x720	1.0	23.976p, 25p, 29.97p, 50p, 59.94p		MPEG-2 Long GOP	PCM, 48 kHz, 16 bit	35 VBR
MPEG HD (EX-SP)	1440x1080	1.333	50i, 59.94i		MPEG-2 Long GOP	PCM, 48 kHz, 16 bit	25 CBR
MPEG HD (EX-HQ)	1440x1080	1.333	23.976p, 25p, 29.97p, 50i, 59.94i		MPEG-2 Long GOP	PCM, 48 kHz, 16 bit	35 VBR
MPEG HD422 (EX-HQ)	1920x1080	1.0	23.976p, 25p, 29.97p, 50i, 59.94i		MPEG-2 Long GOP	PCM, 48 kHz, 16 bit	35 VBR

XAVC Intra

Format	Frame Size	Pixel Aspect Ratio	Frame Rate	Video Codec	Audio Channels (PCM, 48 kHz, 24 bit)	Bit Rate
XAVC Intra	1440x1080	1.333	50i, 59.94i, 23.976p, 25p, 29.97p	MPEG-4 AVC Intra	8	CBG 50
XAVC Intra	1920x1080	1.0	50i, 59.94i, 23.976p, 25p, 29.97p, 50p, 59.94p	MPEG-4 AVC Intra	8, 16	CBG 100
XAVC Intra	1920x1080	1.0	50i, 59.94i, 23.976p, 25p, 29.97p, 50p, 59.94p	MPEG-4 AVC Intra	8	CBG 200
XAVC Intra HFR	1920x1080	1.0	50p, 50i, 59.94p, 59.94i	MPEG-4 AVC Intra	0	CBG 100
XAVC Intra	2048x1080	1.0	23.976p, 24p, 25p, 29.97p, 50p, 59.94p	MPEG-4 AVC Intra	8	VBR
XAVC Intra	2048x1080	1.0	23.976p, 24p, 25p, 29.97p, 50p, 59.94p	MPEG-4 AVC Intra	8, 16	CBG 100
XAVC Intra	3840x2160	1.0	23.976p, 25p, 29.97p, 50p, 59.94p	MPEG-4 AVC Intra	8	VBR
XAVC Intra	3840x2160	1.0	23.976p, 25p, 29.97p, 50p, 59.94p	MPEG-4 AVC Intra	8, 16	CBG 300
XAVC Intra	4096x2160	1.0	23.976p, 24p, 25p, 29.97p, 50p, 59.94p	MPEG-4 AVC Intra	8	VBR
XAVC Intra	4096x2160	1.0	23.976p, 24p, 25p, 29.97p, 50p, 59.94p	MPEG-4 AVC Intra	8, 16	CBG 300

XAVC Long-GOP

Format	Frame Size	Pixel Aspect Ratio	Frame Rate	Video Codec	Audio	Bit Rate
XAVC Long	1280x720	1.0	50p, 59.94p	MPEG-4 AVC Long, High 422 Profile	4-channel PCM, 48 kHz, 24 bit	80 (Maximum)
XAVC Long	1920x1080	1.0	23.976p, 25p, 29.97p, 50p, 50i, 59.94p, 59.94i	MPEG-4 AVC Long, High 422 Profile	4-channel PCM, 48 kHz, 24 bit	80 (Maximum)
XAVC Long	3840x2160	1.0	23.976p, 25p, 29.97p, 50p, 59.94p	MPEG-4 AVC Long, High Profile	4-channel PCM, 48 kHz, 24 bit	200 (Maximum)
XAVC Long Proxy	480x270	1.0	23.976p, 25p, 29.97p, 50p, 59.94p	MPEG-4 AVC Long, High Profile	MPEG-4 AAC, 2 channels, 48 kHz, 256 kbps MPEG-4 AAC, 6 (5.1) channels, 48 kHz, 640 kbps	1 or .5 Mbps
XAVC Long Proxy	640x360	1.0	23.976p, 25p, 29.97p, 50p, 59.94p	MPEG-4 AVC Long, High Profile	MPEG-4 AAC, 2 channels, 48 kHz, 256 kbps MPEG-4 AAC, 6 (5.1) channels, 48 kHz, 640 kbps	3 Mbps
XAVC Long Proxy	1280x720	1.0	23.976p, 25p, 29.97p, 50p, 59.94p	MPEG-4 AVC Long, High Profile	MPEG-4 AAC, 2 channels, 48 kHz, 256 kbps MPEG-4 AAC, 6 (5.1) channels, 48 kHz, 640 kbps	9 Mbps

XAVC S

Format	Frame Size	Pixel Aspect Ratio	Frame Rate	Video Codec	Audio	Bit Rate
XAVC Long Proxy	480x270	1.0	23.976p, 25p, 29.97p, 50p, 59.94p	MPEG-4 AVC Long, High Profile	MPEG-4 AAC, 2 channels, 48 kHz, 256 kbps	4
XAVC Long Proxy	640x360	1.0	23.976p, 25p, 29.97p, 50p, 59.94p	MPEG-4 AVC Long, High Profile	MPEG-4 AAC, 2 channels, 48 kHz, 256 kbps	10
XAVC Long	1280x720	1.0	23.976p, 25p, 29.97p, 50p, 59.94p	MPEG-4 AVC Long, Main Profile or High Profile	2-channel PCM or AAC, 48 kHz, 16 bit	40
XAVC Long Proxy	1280x720	1.0	23.976p, 25p, 29.97p, 50p, 59.94p	MPEG-4 AVC Long, High Profile	MPEG-4 AAC, 2 channels, 48 kHz, 256 kbps	16
XAVC Long	1280x720	1.0	100p, 119.88p	MPEG-4 AVC Long, Main Profile or High Profile	2-channel PCM or AAC, 48 kHz, 16 bit	80
XAVC Long	1440x1080	1.0	23.976p, 25p, 29.97p, 50p, 59.94p	MPEG-4 AVC Long, Main Profile or High Profile	2-channel PCM or AAC, 48 kHz, 16 bit	80
XAVC Long	1920x1080	1.0	23.976p, 25p, 29.97p, 50p, 59.94p	MPEG-4 AVC Long, Main Profile or High Profile	2-channel PCM or AAC, 48 kHz, 16 bit	80
XAVC Long	1920x1080	1.0	100p, 119.88p	MPEG-4 AVC Long, Main Profile or High Profile	2-channel PCM or AAC, 48 kHz, 16 bit	150
XAVC Long Proxy	1920x1080	1.0	23.976p, 25p, 29.97p, 50p, 59.94p	MPEG-4 AVC Long, High Profile	MPEG-4 AAC, 2 channels, 48 kHz, 256 kbps	25
XAVC Long	3840x2160	1.0	23.976p, 25p, 29.97p	MPEG-4 AVC Long, Main Profile or High Profile	2-channel PCM or AAC, 48 kHz, 16 bit	188
XAVC Long	3840x2160	1.0	50p, 59.94p	MPEG-4 AVC Long, Main Profile or High Profile	2-channel PCM or AAC, 48 kHz, 16 bit	300

RAW

Format	Frame Size	Bits	Frame Rate	Compression
F5/F55RAW	2048x1080	16	23.976p, 24p, 25p, 29.97p, 50p, 59.94p, HFR (max. 240)	SQ
F5/F55RAW	4096x2160	16	23.976p, 24p, 25p, 29.97p, 50p, 59.94p, 240p	SQ
F65RAW	4096x2160	16	23.976p, 24p, 25p, 29.97p, 50p, 59.94p, HFR (max. 120)	Lite, SQ
FS700RAW	2048x1080	16	23.976p, 25p, 29.97p, 50p, 59.94p, HFR (max. 240)	SQ
FS700RAW	4096x2160	16	23.976p, 25p, 29.97p, 50p, 59.94p, HFR (max. 120)	SQ

HDCAM SR (SStP)

Format	Frame Size	Bits	Color Space	Pixel Aspect Ratio	Frame Rate	Compression (Mbps)
SSTP	1280x720	10	YUV 422	1.0	50p, 59.94p	Lite(220), SQ (440)
SSTP	1920x1080	10	YUV 422	1.0	50i, 59.94i, 23.976p, 24p, 25p, 29.97p, 50p, 59.94p	Lite(220), SQ (440)
SSTP	1920x1080	10	RGB 444	1.0	50i, 59.94i, 23.976p, 24p, 25p, 29.97p, 50p, 59.94p	SQ(440), HQ (880)
SSTP	1920x1080	12	RGB 444	1.0	50i, 59.94i, 23.976p, 24p, 25p, 29.97p, 50p, 59.94p	HQ(880)
SSTP	2048x1080	10	YUV 422	1.0	50p, 59.94p	Lite(220), SQ (440)
SSTP	2048x1080	10	RGB 444	1.0	50i, 59.94i, 23.976p, 24p, 25p, 29.97p	SQ(440)
SSTP	2048x1080	10	RGB 444	1.0	23.976p, 24p, 25p, 29.97p	HQ(880)
SSTP	2048x1080	12	RGB 444	1.0	50i, 59.94i, 23.976p, 24p, 25p, 29.97p	SQ(440)
SSTP	2048x1080	12	RGB 444	1.0	23.976p, 24p, 25p, 29.97p, 50p, 59.94p	HQ(880)
SSTP	2048x1080	12	RGB 444	1.0	23.976p, 24p, 25p, 29.97p	SQ(440)
SSTP	2048x1080	12	RGB 444	1.0	23.976p, 24p, 25p, 29.97p, 50p, 59.94p	HQ(880)
SSTP	2048x1556	10	RGB 444	1.0	23.976p, 24p, 25p	HQ(880)

NXCAM

Format	Frame Size	Pixel Aspect Ratio	Frame Rate	Video Codec	Audio Codec	Bit Rate
AVCHD	1920x1080	1.0	59.94p, 50p,	H.264/MPEG-4 AVC	Dolby AC-3 or PCM 2 channels, 48 kHz, 16 bit	28 Mbps
AVCHD	1920x1080	1.0	59.94i, 50i, 29.97p, 25p, 23.976p	H.264/MPEG-4 AVC	Dolby AC-3 or PCM 2 channels, 48 kHz, 16 bit	24 or 17 Mbps
AVCHD	1280x720	1.0	59.94p, 50p	H.264/MPEG-4 AVC	Dolby AC-3 or PCM 2 channels, 48 kHz, 16 bit	24 or 17 Mbps
AVCHD	1440x1080	1.333	59.94i, 50i	H.264/MPEG-4 AVC	Dolby AC-3 or PCM 2 channels, 48 kHz, 16 bit	9 or 5 Mbps
MPEG-2 SD	720x480	0.9091 or 1.2121	23.976p, 29.97p, 59.94i	MPEG-2	Dolby AC-3 2 channels, 48 kHz, 16 bit	9 Mbps
MPEG-2 SD	720x576	1.0926 or 1.4568	25p, 50i	MPEG-2	Dolby AC-3 2 channels, 48 kHz, 16 bit	9 Mbps

AVC H.264/MPEG-4

Format	Frame Size	Screen Aspect Ratio	Frame Rate	Video Codec	Audio Codec	Bit Rate
H.264/MPEG-4 AVC	1280x720	16:9	50p, 100p, 120p,	AVC	Mono, 48kHz, AAC compression w/ AGC	
H.264/MPEG-4 AVC	1920x1080	16:9	24p, 25p, 30p, 48p, 50p, 60p	AVC	Mono, 48kHz, AAC compression w/ AGC	
H.264/MPEG-4 AVC	1920x1440	4:3	24p, 25p, 30p, 48p	AVC	Mono, 48kHz, AAC compression w/ AGC	
H.264/MPEG-4 AVC	3840x2160	16:9	12p, 12.5p, 15p	AVC	Mono, 48kHz, AAC compression w/ AGC	
H.264/MPEG-4 AVC	4096x2160	17:9	12p	AVC	Mono, 48kHz, AAC compression w/ AGC	
H.264/MPEG-4 AVC	2704x1524	16:9	25p, 30p	AVC	Mono, 48kHz, AAC compression w/ AGC	
H.264/MPEG-4 AVC	2704x1440	17:9	24p	AVC	Mono, 48kHz, AAC compression w/ AGC	
H.264/MPEG-4 AVC	1280x960	4:3	48p, 100p	AVC	Mono, 48kHz, AAC compression w/ AGC	
H.264/MPEG-4 AVC	848x480	16:9	240p	AVC	Mono, 48kHz, AAC compression w/ AGC	
H.264/MPEG-4 AVC	640x480	4:3	25p, 30p	AVC	Mono, 48kHz, AAC compression w/ AGC	
H.264/MPEG-4 AVC	240x180		25p, 29.97p	AVC	2 channels, 16 bit, AAC compression w/ AGC	2 Mbps VBR
H.264/MPEG-4 AVC	320x180		25p, 29.97p	AVC	2 channels, 16 bit, AAC compression w/ AGC	2 Mbps VBR
H.264/MPEG-4 AVC	320x240		25p, 29.97p	AVC	2 channels, 16 bit, AAC compression w/ AGC	2 Mbps VBR
H.264/MPEG-4 AVC	480x270		25p, 29.97p	AVC	2 channels, 16 bit, AAC compression w/ AGC	2 Mbps VBR
H.264/MPEG-4 AVC	640x480		25p, 29.97p	AVC	2 channels, 16 bit, AAC compression w/ AGC	2 Mbps VBR

Format	Frame Size	Screen Aspect Ratio	Frame Rate	Video Codec	Audio Codec	Bit Rate
H.264/MPEG-4 AVC	1280x720		50p, 60p, 100p,120p	AVC	2 channels, 16 bit, AAC compression w/ AGC	8 Mbps VBR
H.264/MPEG-4 AVC	1280x960		48p, 100p,120p	AVC	2 channels, 16 bit, AAC compression w/ AGC	8 Mbps VBR
H.264/MPEG-4 AVC	1920x1080		24p, 25p, 29.97p, 48p, 50p, 60p	AVC	2 channels, 16 bit, AAC compression w/ AGC	12 Mbps VBR
H.264/MPEG-4 AVC	1920x1440		24p, 25p, 29.97p, 48p	AVC	2 channels, 16 bit, AAC compression w/ AGC	12 Mbps VBR
H.264/MPEG-4 AVC	2704x1524		24p, 25p, 29.97p	AVC	2 channels, 16 bit, AAC compression w/ AGC	12 Mbps VBR
H.264/MPEG-4 AVC	3840x2160		12.5p,15p	AVC	2 channels, 16 bit, AAC compression w/ AGC	12 Mbps VBR
H.264/MPEG-4 AVC	4096x2160		12p	AVC	2 channels, 16 bit, AAC compression w/ AGC	12 Mbps VBR
H.264/MPEG-4 AVC (HVO)	720x480		59.94i	AVC	2 channels, 16 bit, AAC compression w/ AGC	5, 7, or 9 Mbps VBR
H.264/MPEG-4 AVC (HVO)	720x576		50i	AVC	2 channels, 16 bit, AAC compression w/ AGC	5, 7, or 9 Mbps VBR

Avid DNxHD®

Container: MOV or MXF

Audio Codec: PCM 44.1 kHz or 48 kHz, 16 bit or 24 bit

Frame Size	Family Name	Color Space/Bits	Frame Rate/Maximum Bit Rate
1920x1080	Avid DNxHD® 444	4:4:4 10 bit	29.97p @ 440 Mbps, 25p @ 365 Mbps, 24p @ 350 Mbps, 23.976p @ 350 Mbps
1920x1080	Avid DNxHD® 220x	4:2:2 10 bit	60p @ 440 Mbps, 59.94p @ 440 Mbps, 50p @ 365 Mbps, 59.94i @ 220 Mbps, 50i @ 185 Mbps, 29.97p @ 220 Mbps, 25p @ 185 Mbps, 24p @ 175 Mbps, 23.976p @ 175 Mbps
1920x1080	Avid DNxHD® 220	4:2:2 8 bit	60p @ 440 Mbps, 59.94p @ 440 Mbps, 50p @ 365 Mbps, 59.94i @ 220 Mbps, 50i @ 185 Mbps, 29.97p @ 220 Mbps, 25p @ 185 Mbps, 24p @ 175 Mbps, 23.976p @ 175 Mbps
1920x1080	Avid DNxHD® 145	4:2:2 8 bit	60p @ 290 Mbps, 59.94p @ 290 Mbps, 50p @ 240 Mbps, 59.94i @ 145 Mbps, 50i @ 120 Mbps, 29.97p @ 145 Mbps, 25p @ 120 Mbps, 24p @ 115 Mbps, 23.976p @ 115 Mbps
1920x1080	Avid DNxHD® 145 (subsampled to 1440x1080)	4:2:2 8 bit	59.94i @ 145 Mbps, 50i @ 120 Mbps
1920x1080	Avid DNxHD® 100 (subsampled to 1440x1080)	4:2:2 8 bit	59.94i @ 100 Mbps, 50i @ 85 Mbps, 29.97p @ 100 Mbps, 25p @ 85 Mbps, 24p @ 80 Mbps, 23.976p @ 80 Mbps
1920x1080	Avid DNxHD® 36	4:2:2 8 bit	60p @ 90 Mbps, 59.94p @ 90 Mbps, 50p @ 75 Mbps, 29.97p @ 45 Mbps, 25p @ 36 Mbps, 24p @ 36 Mbps, 23.976p @ 36 Mbps
1280x720	Avid DNxHD® 220x	4:2:2 10 bit	59.94p @ 220 Mbps, 50p @ 175 Mbps, 29.97p @ 110 Mbps, 25p @ 90 Mbps, 23.976p @ 90 Mbps
1280x720	Avid DNxHD® 220	4:2:2 8 bit	59.94p @ 220 Mbps, 50p @ 175 Mbps, 29.97p @ 110 Mbps, 25p @ 90 Mbps, 23.976p @ 90 Mbps
1280x720	Avid DNxHD® 145	4:2:2 8 bit	59.94p @ 145 Mbps, 50p @ 115 Mbps, 29.97p @ 75 Mbps, 25p @ 60 Mbps, 23.976p @ 60 Mbps
1280x720	Avid DNxHD® 100 (subsampled to 960x720)	4:2:2 8 bit	59.94p @ 100 Mbps, 50p @ 85 Mbps, 29.97p @ 50 Mbps, 25p @ 45 Mbps, 23.976p @ 50 Mbps

Apple ProRes (OS X only)

Container: MOV

Audio Codec: PCM

Format	Frame Size	Frame Rate	Video Codec
ProRes	720x486	59.94i, 30p, 29.97p, 24p, 23.976p	422 (proxy), 422 (LT), 422, 422 (HQ), 4444
ProRes	720x576	50i, 25p	422 (proxy), 422 (LT), 422, 422 (HQ), 4444
ProRes	960x720	60p, 59.94p, 50p, 30p,29.97p, 24p, 23.976p	422 (proxy), 422 (LT), 422, 422 (HQ), 4444
ProRes	1280x720	60p, 59.94p, 50p, 30p,29.97p, 24p, 23.976p	422 (proxy), 422 (LT), 422, 422 (HQ), 4444
ProRes	1280x1080	59.94i, 30p, 29.97p, 24p, 23.976p	422 (proxy), 422 (LT), 422, 422 (HQ), 4444
ProRes	1440x1080	59.94i, 50i, 30p, 29.97p, 25p, 24p, 23.976p	422 (proxy), 422 (LT), 422, 422 (HQ), 4444
ProRes	1920x1080	60p, 59.94p, 50p, 59.94i, 50i, 30p, 29.97p, 25p, 24p, 23.976p	422 (proxy), 422 (LT), 422, 422 (HQ), 4444
ProRes	2048x1080	60p, 59.94p, 50p, 30p, 29.97p, 25p, 24p, 23.976p	422 (proxy), 422 (LT), 422, 422 (HQ), 4444
ProRes	2048x1556	60p, 59.94p, 50p, 30p, 29.97p, 25p, 24p, 23.976p	422 (proxy), 422 (LT), 422, 422 (HQ), 4444
ProRes	3840x2160	60p, 59.94p, 50p, 30p, 29.97p, 25p, 24p, 23.976p	422 (proxy), 422 (LT), 422, 422 (HQ), 4444
ProRes	4096x2160	60p, 59.94p, 50p, 30p, 29.97p, 25p, 24p, 23.976p	422 (proxy), 422 (LT), 422, 422 (HQ), 4444
ProRes	5120x2160	60p, 59.94p, 50p, 30p, 29.97p, 25p, 24p, 23.976p	422 (proxy), 422 (LT), 422, 422 (HQ), 4444

HDV

Container: MPEG-2 Transport Stream (Windows), MOV (OS X)

Audio Codec: MPEG-1 Audio Layer-2 (Windows). 2 channels, 48 kHz, 16 bit

Format	Frame Size	Pixel Aspect Ratio	Frame Rate	Interlace	Video Codec
HDV	1440x1080	1.333	50i, 59.94i	Upper	MPEG-2 MP@H14

DV

Container: AVI (Windows), MOV (OS X)

Audio Codec: PCM, 2 channels, 32 kHz, 16 bit

Format	Frame Size	Frame Rate	Field Order	Video Codec	Bit Rate	Audio Channels
DV (SD)	720x480	59.94i	Lower	DV	25 CBR	2 channels, 32 kHz, 16 bit
DV (SD)	720x576	50i	Lower	DV	25 CBR	2 channels, 32 kHz, 16 bit

Adding media and creating clips

After you've previewed files to determine which media files you want to use in your project, you'll add clips to the timeline to indicate when each media file will be played.

For more information, see "Previewing video" on page 39.

When you add the first video clip to a project, the timeline settings are automatically adjusted to match the media properties. For more information, see "Using the Timeline Inspector" on page 13.

To change the magnification level of the timeline, you can drag the slider above the time ruler or click the **Zoom Out** or **Zoom In** buttons.

Snapping can help you align clips as you add them to the timeline. For more information, see "Clip snapping" on page 76.

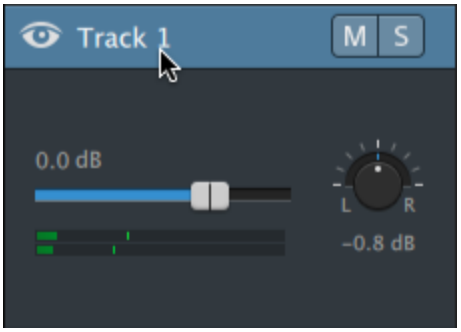
When a clip with audio and video streams is selected, you can use the **Streams** control in the Clip Inspector to choose which streams you want to use on the timeline. For more information, see "Using the Clip Inspector" on page 86.

Adding clips to existing tracks

If you've already added tracks to your project, you can use the Media Browser to create clips on those tracks.

For more information, see "Adding tracks to a project" on page 43.

1. Click the track header of the track where you want to add a clip.



2. Select the clips you want to use in the Media Browser.

   For more information, see "Finding media" on page 21.

   If you want to adjust mark in/out points before adding media, you can log mark in/out points in the Media Browser.

3. Click the **Add to Timeline** button at the bottom of the Media Browser.

   The selected files are added as clips to the end of the selected track, and the new clips are selected.

   If multiple clips are selected, they will be added to the track in the order they are displayed in the Media Browser.

   You an also drag files from the Windows Explorer, Finder, or Media Browser to the timeline:

   - If you drop a media file on an existing track, a clip will be created.
   - If you drop a media file on a track's header, the new clip is created at the beginning of the timeline.
   - If you drop a media file on a blank area of the timeline, a track will be created.

   When you add spanned clips to the timeline, a single clip is created.

   To change the magnification level of the timeline, you can drag the slider above the time ruler, roll the mouse wheel, or drag vertically with two fingers on a trackpad.

   Any color adjustments that were applied in Catalyst Prepare are preserved when adding media to the Catalyst Edit timeline.

Adding clips and creating tracks

1. Use the Media Browser to find media files.
2. Select the media files you want to add to your project.

   If you want to adjust mark in/out points before adding media, you can log mark in/out points in the Media Browser. For more information, see "Finding media" on page 21.

3. Click the **Tools** button at the bottom of the Media Browser and choose **Add selection as tracks** from the menu.

   A separate track is created for each selected clip, and a clip is created on each track for the clip. The clips will begin at the start of the timeline.

   If multiple clips are selected, they will be added to the track in the order they are displayed in the Media Browser.

   You an also drag files from the Windows Explorer, Finder, or Media Browser to the timeline. If you drop a media file on an existing track, a clip will be created. If you drop a media file on a blank area of the timeline, a track will be created.

   When you add spanned clips to the timeline, a single clip is created.

   To change the magnification level of the timeline, you can drag the slider above the time ruler, roll the mouse wheel, or drag vertically with two fingers on a trackpad.

   Any color adjustments that were applied in Catalyst Prepare are preserved when adding media to the Catalyst Edit timeline.

Adding clips from a Catalyst Prepare library

Organize mode in Catalyst Prepare allows you to review your imported clips, group related clips in folders, view and edit metadata, and view mark points.

You can browse to a Catalyst Prepare library ( ) in the Catalyst Edit Media Browser, or you can drag clips from Catalyst Prepare to the Catalyst Edit timeline:

1. Click the **Organize** button at the top of the Catalyst Prepare window .

2. The **Library** button displays the current library. You can click the button to choose a different library or create a new library.

   The library's media is displayed in the right side of the Catalyst Prepare window .

3. Select the clips you want to use and drag them to the Catalyst Edit timeline. Drop the clips where you want to create clips.

Chapter 4

Playing media

The video preview is displayed above the timeline and displays a project's video output at the current cursor position during editing and playback. This window is also useful when editing frame by frame for synchronizing audio.

You can use the transport toolbar below the video to choose the playback mode, scrub the video, and control playback.

Previewing video

The video preview is displayed above the timeline and displays a project's video output at the current cursor position during editing and playback. This window is also useful when editing frame by frame for synchronizing audio.

The Video Preview window temporarily enters split-screen preview mode when trimming, roll-trimming, split-trimming, or slip-trimming clips. This temporary split-screen mode allows you to see both sides of the edit at once:

- When trimming the left edge of a clip, the left side of the preview displays the last frame from the previous clip (black if there is no previous clip), and the right side of the preview displays the first frame from the clip being trimmed.
- When trimming the right edge of a clip, the left side of the preview displays the last frame from the clip being trimmed, and the right side of the preview displays the first frame from the next clip (black if there is no next clip).
- When slip trimming the left or right edge of a clip, the left side of the preview displays the first frame from the clip being trimmed, and the right side of the preview displays the last frame from the clip being trimmed.

When splitting or trimming clips that contain audio, an invisible fade is applied at the edit to soften potentially harsh transitions.

Using the transport controls

The transport controls below the video preview allow you to control playback:

Button		Description
	Go to Start	Moves the playback position indicator to the beginning of the timeline.
	Previous Frame	Moves the playback position indicator one frame or field to the left.
	Play	Playback will start from the playback position indicator and continue until the the end of the file.
	Stop	Stops playback or recording and returns the cursor to its starting position.
	Next Frame	Moves the playback position indicator one frame or field to the right.
	Go to End	Moves the playback position indicator to the end of the timeline.
	Loop Playback	Plays only the area between the **Mark In** and **Mark Out** points in a continuous mode. For more information, see "Marking in and out points for playback" on page 42.

Displaying waveform and histogram monitors

The video preview includes a waveform monitor and histogram that you can use to monitor color values.

1. Click the button to display the Video Settings menu.
2. Turn on the **Waveform** or **Histogram** switch to enable the monitor.

   The waveform monitor displays the luminance values (brightness or Y component) of your video signal. The monitor plots luminance values on the vertical axis and the width of the current frame on the horizontal axis.

   You can use the buttons at the top of the waveform monitor to display overlaid ( ) or separate ( ) RGB waveforms and isolate colors .

   The histogram monitor displays the number of pixels that exist for each color intensity. The vertical axis represents the number of pixels, and the horizontal axis represents the RGB color range from 0,0,0 to 0,0,255.

   You can use the buttons at the top of the histogram monitor to display overlaid ( ) or separate ( ) RGB histograms and isolate colors .

Navigating the timeline

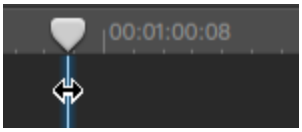
Drag the shuttle control to seek forward or backward from the play position indicator to find an edit point. As you drag toward the ends of the shuttle control, playback speed increases. Release the shuttle control to stop playback:

You can also press the J, K, or L keys to use the keyboard as a shuttle control.

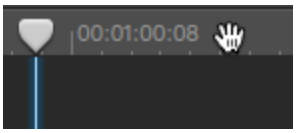
Press and hold K while pressing J or L to emulate a shuttle knob mode. Press K+J to scrub left or K+L to scrub right.

Item	Description
J	Scrub reverse mode. Press again to accelerate the playback rate.
K	Pause.
L	Scrub forward mode. Press again to accelerate the playback rate.

You can drag the play cursor to scrub the timeline:



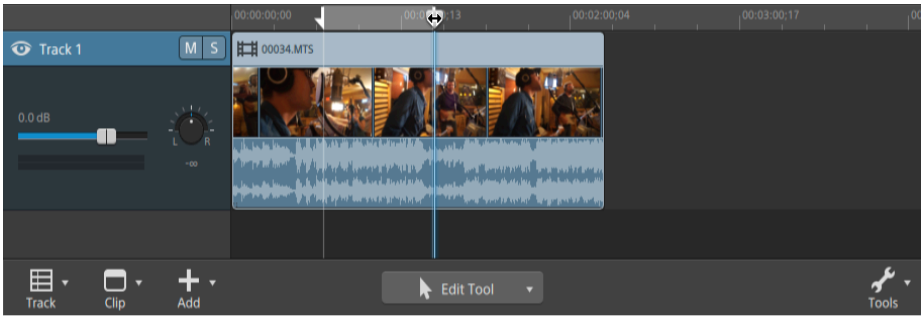
You can drag the ruler to scroll the timeline:



Marking in and out points for playback

If you want to play only a portion of the timeline, you can select the portion of the video you want to play.

1. Click the timeline to set the play position indicator:



2. Click the **Tools** button below the timeline and choose **Mark in** or press I.
3. Click the timeline to set the play position indicator.
4. Click the **Tools** button below the timeline and choose **Mark out** or press O.

When you click the **Play** button, playback will start from the playback position indicator and continue until the **Mark Out** position or the end of the file.

If you want to play the Mark In/Mark Out region in a continuous loop, select the **Loop Playback** button .

Double-click a clip with the Edit, Slip, or Fade tool to select a clip and set the Mark In/Out region to match its length.

Double-click the fade between two clips with the Edit, Slip, or Fade tool to select a fade area and set the Mark In/Out region to match its length.

You can adjust mark in/out points by dragging the indicators above the timeline.

You can adjust the mark in/out region without changing its length by dragging the area between indicators above the timeline.

To reset mark in/out points, click the **Tools** button below the timeline and choose **Reset mark in/out points**.

Chapter 5

Track editing

Tracks are containers along the timeline where you arrange audio and video clips.

Clips sit on tracks to determine when a clip starts and stops, and multiple tracks are mixed together to produce your final output.

Adding tracks to a project

You can create empty tracks in a project to serve as placeholders for media that you will add to your project later, or you can create tracks when you add media to the project.

Video tracks are composited together so that upper tracks obscure lower tracks. If a clip includes transparency, lower clips will be visible through the transparent areas.

Adding an empty track

Click the **Track** button below the timeline and choose **New** from the menu. A new, empty track is created above the focus track.

Press Ctrl+Shift+N (Windows) or Shift-⌘-N (OS X).

Double-click below the last track header to create a new, empty track.

Adding a media file as a new track

1. Select the clips you want to use in the Media Browser.

   For more information, see "Finding media" on page 21.

2. Click the **Media Tools** button at the bottom of the Media Browser below the timeline and choose **Add selection as tracks** from the menu to add the files to new tracks in your project. The new tracks are created at the bottom of the track list.

   A separate track is created for each selected clip, and a clip is created on the timeline for each clip. The clips will begin at the start of the timeline, and the new clips are selected.

   If multiple clips are selected, they will be added to the track in the order they are displayed in the Media Browser.

Deleting tracks

To delete a track, select the track and perform one of the following actions:

- Press Delete.
- Click the **Track** button below the timeline and choose **Delete** from the menu.

Moving tracks

To move a track, drag its track header to a new location in the track list. An indicator is displayed to show you where the track will be moved.

When you release the mouse, the track and its clips will be moved.

Creating a picture-in-picture effect

The Picture in Picture effect allows you to resize and position clips for picture-in-picture compositing.

Creating the inner picture

1. Create two tracks in your project. For more information, see "Adding tracks to a project" on page 43.
2. Add clips to your tracks:
   - The top track will contain the smaller, inner picture.
   - The bottom track will contain the background clip.

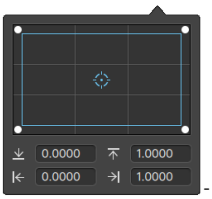
   For more information, see "Adding media and creating clips" on page 35.
3. Click the top track to select it.
4. Click the **Track** button below the timeline and choose **Picture in Picture**. The controls for the Picture in Picture plug-in are displayed in the Track Inspector.

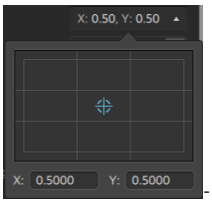
Editing picture in picture settings

1. Select the track that contains the top clip.
2. Click the Inspector button to show the Inspector pane.

3. In the Inspector, select the Track tab to view and edit settings for the Picture in Picture plug-in. Use the Picture in Picture plug-in to adjust the size and position of the top clip.

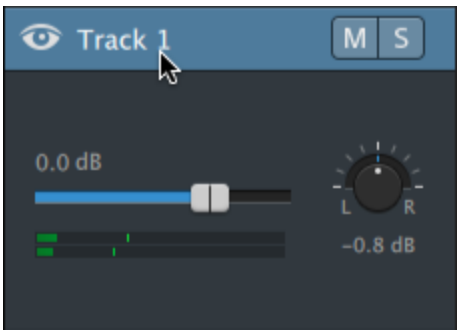
   For more information, see "Using the Track Inspector" on page 52.

Item	Description
Location	The drop-down list displays the current position of the video in the frame. Click to display an edit control you can use to position your video.  You can drag the point in the edit control or type values in the **X** and **Y** boxes to set the position of your video in the frame. Double-click the point to reset it. You can drag the corners of the rectangle in the edit control or type values in the edit boxes to set the position of each corner of the background in the frame. Drag a corner of the rectangle to preserve aspect ratio while resizing. Hold Shift while dragging the corners of the rectangle to resize and adjust aspect ratio. Hold Alt (Windows) or Option (OS X) to resize the rectangle from the center. Hold Ctrl (Windows) or ⌘ (OS X) to adjust the controls in fine increments. When a corner is selected, you can use the arrow keys to adjust the selected corner, or press Ctrl (Windows) or ⌘ (OS X) + the arrow keys to adjust in fine increments. Drag the edges of the rectangle to resize the rectangle. Drag an edge of the rectangle to preserve aspect ratio while resizing. Hold Shift while dragging an edge to resize and adjust aspect ratio. Hold Alt (Windows) or Option (OS X) to resize the rectangle from the center. Hold Ctrl (Windows) or ⌘ (OS X) to adjust the controls in fine increments. Drag the center of the rectangle to move without resizing, or double-click the point to reset it. Hold Shift while dragging to constrain to horizontal/vertical/45-degree movement. Hold Ctrl (Windows) or ⌘ (OS X) to adjust the controls in fine increments. When the rectangle is selected, you can copy the position of the rectangle to paste to another clip.
Rotation	Type a value in the box or drag the slider to rotate the video in the frame.

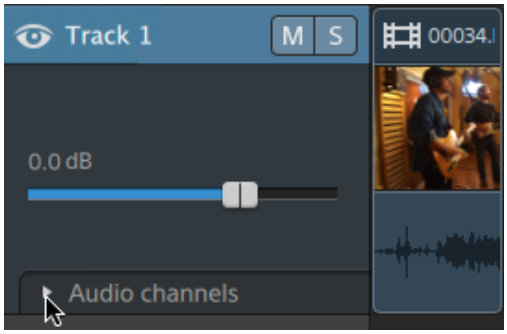
Item	Description
Flip horizontal	Click to invert the video horizontally.
Flip vertical	Click to invert the video vertically.
Opacity	Type a value in the box or drag the slider to adjust the opacity of the top image. As you decrease the opacity, video from lower tracks will show through the foreground.
Shadow	
Type	Choose a setting from the drop-down list if you want to display a shadow over or behind the foreground image.
Offset	The drop-down list displays the current position of the shadow relative to the foreground image. Click to display an edit control you can use to position your shadow.  You can drag the point in the edit control or type values in the **X** and **Y** boxes to set the position of your shadow in the frame. Double-click the point to reset it. Hold Ctrl (Windows) or ⌘ (OS X) to adjust the point in fine increments.
Rotation	Type a value in the box or drag the slider to rotate the shadow in the frame.
Scale	Type a value in the box or drag the slider to adjust the size of the shadow.
Blur	Type a value in the box or drag the slider to feather the edges of the shadow.
Opacity	Type a value in the box or drag the slider to adjust the opacity of the shadow. As you decrease the opacity, video from lower tracks will show through the foreground.
Glow	
Type	Choose a setting from the drop-down list if you want to display a glow effect over or behind the foreground image.
Amount	Type a value in the box or drag the slider to adjust the size of the glow effect.
Color/Second color	Click the color sample to display a color picker, where you can choose a color or type color values to set the shadow color. You can also adjust the transparency (alpha value) of the shadow.

Adjusting track controls

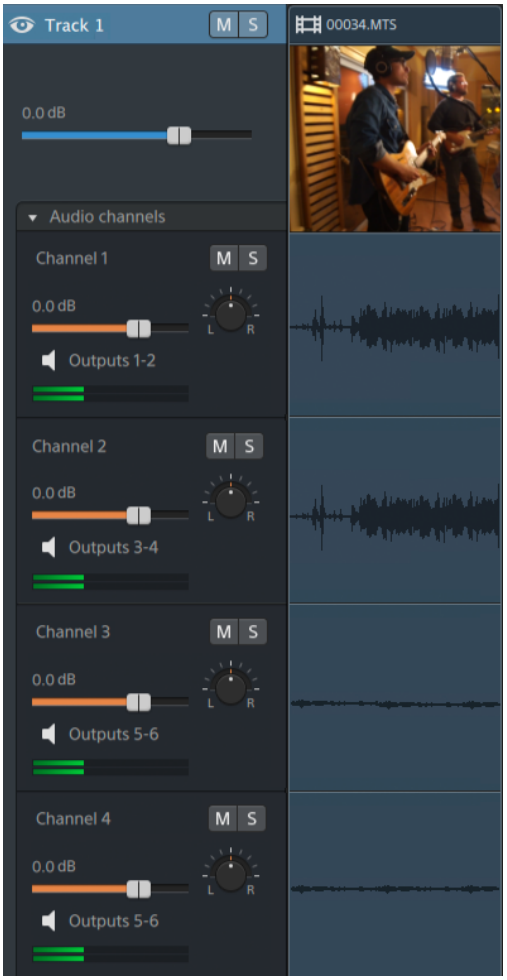
The controls in the track list allow you to adjust a track's volume, adjust track panning, and mute or solo a track.



When a track has multiple channels, separate controls are displayed for each channel. You can use the blue **Volume** fader to adjust the overall level of the track, and the orange **Volume** faders adjust each channel's contribution to the level of the track. For more information, see "Working with multichannel audio" on page 110.

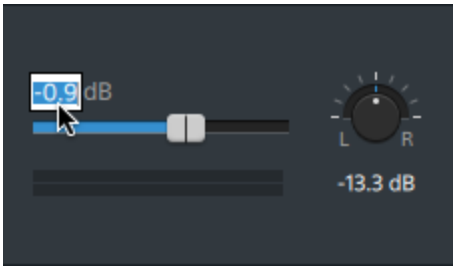


Click ▶ to expand the track's channels.



Adjusting track volume

Drag the **Volume** fader to adjust the overall volume of the selected track. Double-click the center of the thumb to reset the fader. You can click the numeric value to type a new value:



Dragging the **Volume** fader on the track header also adjusts the **Volume** fader in the Track Inspector. For more information, see "Using the Track Inspector" on page 52.

Hold Ctrl (Windows) or ⌘ (OS X) to adjust the volume fader in fine increments.

When adjusting volume, remember to watch your audio meters. Because you are adding the volumes of all of the tracks together, it is easy to clip the audio output. Make sure that the meters never display the red Clip indication during playback. For more information, see "Monitoring audio levels" on page 118.

The meter in the Track Inspector shows audio levels for the selected track. The meter in the activity pane at the top of the Catalyst Edit window shows the sum of all audio at the cursor position.

Muting a track

Click the M button to mute/unmute the selected audio track, or click the button to mute a video track.

When a track is muted, it is excluded from the project output. You can enable the **Mute** button on additional tracks to add them to the mute group.

Clicking the **Mute** button in the track header also updates the **Mute** button in the Track Inspector.

Soloing a track

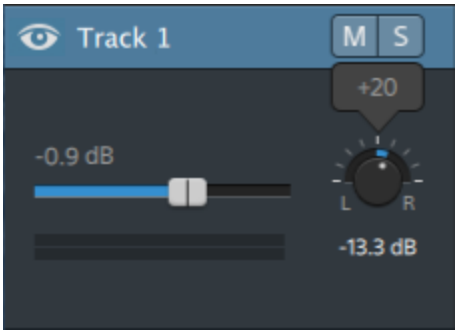
Click the S button to solo/unsolo the selected track.

When a track is soloed, all unsoloed tracks are effectively muted. Click the S button on additional tracks to add them to the solo group. To remove a track from the solo group, click its S button again.

Clicking the **Solo** button in the track header also updates the **Solo** button in the Track Inspector.

Panning a track

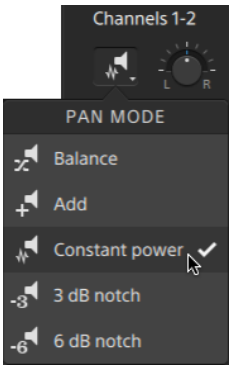
Drag the **Pan** knob to control the position of the track in the stereo field: dragging to the down or to the left will place the track in the left speaker more than the right, and dragging up or to the right will place the track in the right speaker. Double-click the knob to reset panning to the center.



Dragging the **Pan** knob on the track header also adjusts the **Pan** knob in the Track Inspector.

The **Track pan** knob is not displayed for tracks that are assigned to a mono output or that contain multichannel clips. When a track contains multichannel clips, use the Audio Channel controls to pan each channel.

If you want to change the panning model that is used for the track, click the **Pan mode** button in the Track Inspector and choose a setting from the menu:

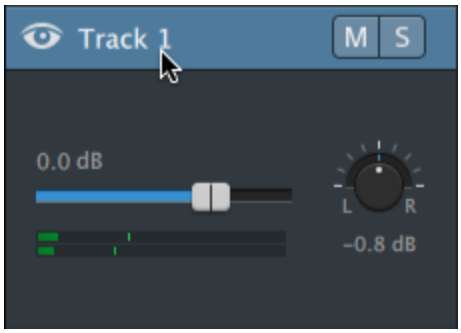


For more information, see "Using the Track Inspector" on page 52.

Using the Track Inspector

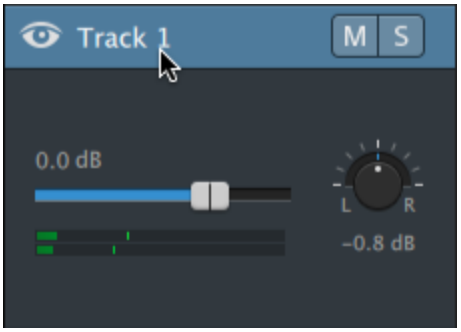
In the Inspector , select the Track tab to view and edit settings for the selected track.

Click a track's header to select it, and the Track tab is displayed automatically if the Inspector is visible:



Summary

Type a value in the **Name** box to set the name of the selected track. The name you type here will be displayed in the track header:



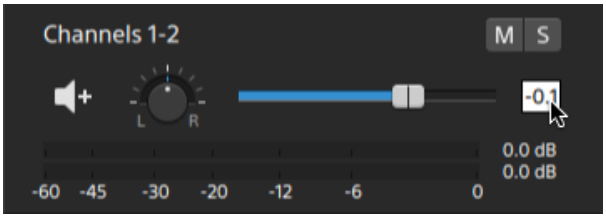
When **Ripple** is first enabled, ripple edits are enabled for all tracks. If you want to turn ripple editing on or off for a track, use the **Ripple sync** switch.

The **Ripple sync** switch is available only when the **Ripple** button above the timeline is enabled.

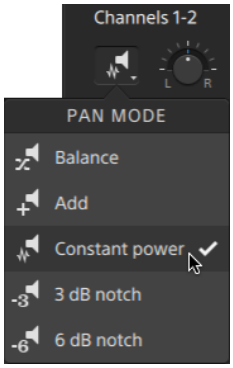
Audio Output

Each track in your project supports two audio channels, and each clip in your project supports multichannel audio. For more information, see "Working with multichannel audio" on page 110.

The Audio Output controls in the Track Inspector allow you to adjust the overall level of the track and control each channel's contribution to the stereo track.

Item	Description
Track volume	Click the value and type a new value or drag the fader adjust the overall volume of the selected track. Double-click the center of the thumb to reset the fader.  Dragging the **Volume** fader in the Track Inspector also adjusts the **Volume** fader on the track header. For more information, see "Adjusting track controls" on page 49. Hold Ctrl (Windows) or ⌘ (OS X) to adjust the volume fader in fine increments. When adjusting volume, remember to watch your audio meters. Because you are adding the volumes of all of the tracks together, it is easy to clip the audio output. Make sure that the meters never display the red Clip indication during playback. For more information, see "Monitoring audio levels" on page 118. The meter in the Track Inspector shows audio levels for the selected track. The meter in the activity pane at the top of the Catalyst Edit window shows the sum of all audio at the cursor position.
Track pan	Drag the knob to control the position of the track in the stereo field: dragging to the down or to the left will place the audio in the left speaker more than the right, and dragging up or to the right will place the audio in the right speaker. Double-click the knob to reset panning to the center. Dragging the **Pan** knob in the Track Inspector also adjusts the **Pan** knob on the track header. The **Track pan** knob is not displayed for tracks that are assigned to a mono output or that contain multichannel clips. When a track contains multichannel clips, use the Audio Channel controls to pan each channel.

Item	Description
Pan mode	Click the **Pan mode** button and choose a setting from the menu to choose the panning model that is used for the track:



- **Add**: This mode is most useful for panning stereo files. As you pan across the stereo field, the stereo image appears to move across the speakers. As you pan toward either side, the signal from the opposite channel is added to the channel you are panning toward until at the extreme both channels are sent to a single channel at full volume.

  This mode uses a linear panning curve.

- **Constant power**: This mode is most useful for panning monaural source material. In this mode, sound will maintain its volume when you pan across channels.

  If you pan a stereo file 100% R, only the right channel of your media file is played, and this channel is sent to both output channels. If you continue to pan to the left, the left channel is gradually added to the output, and the right channel is gradually faded out until only the left channel will be heard through both output channels when the slider is at 100% L.

- **3 dB notch**: This mode can help you adjust the relative signal levels of the channels in stereo source material. A -3 dB cut is applied when you're panned to the center. As you pan from the center to either side, the opposite channel begins at -3 dB and decays to -infinity. The signal in the side you are panning toward progresses from -3 dB to 0 dB.

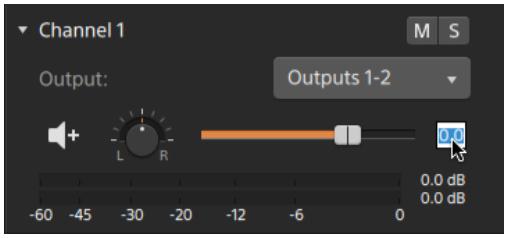
  This panning mode uses a linear panning curve.

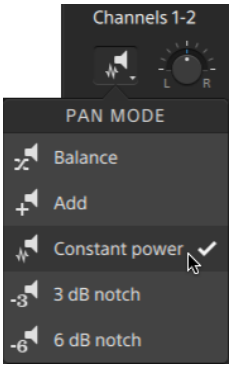
- **6 dB notch**: This mode can help you adjust the relative signal levels of the channels in stereo source material. A -6 dB cut is applied when you're panned to the center. As you pan from the center to either side, the opposite channel begins at -6 dB and decays to -infinity. The signal in the side you are panning toward progresses from -6 dB to 0 dB.

  This panning mode uses a linear panning curve.

Item	Description
	For example, when using the **3 dB notch** or **6 dB notch** settings, when you pan fully right, the right channel is played at 0 dB and the left channel is not audible. As you pan to the center, each channel is attenuated to the specified center value (-3 dB or -6 dB). As you pan to the left, the left channel is played at 0 dB, and the right channel is not audible.
Mute	Click M to mute/unmute the selected track. When a track is muted, it is excluded from the audio mix. You can enable the M button on additional tracks to add them to the mute group. Clicking the **Mute** button in the Track Inspector also updates the **Mute** button on the track header.
Solo	Click S to solo/unsolo the selected track. When a track is soloed, all unsoloed tracks are effectively muted. Click the S button on additional tracks to add them to the solo group. To remove a track from the solo group, click its S button again. Clicking the **Solo** button in the Track Inspector also updates the **Solo** button on the track header.

The following controls are displayed only when a track contains multichannel clips. For more information, see "Working with multichannel audio" on page 110,

Item	Description
Channel volume	Drag the fader to adjust the volume of the selected channel. Double-click the center of the thumb to reset the fader. You can double-click the numeric value to type a new value:  Dragging the **Volume** fader in the Track Inspector also adjusts the **Volume** fader on the track header. For more information, see "Adjusting track controls" on page 49. Hold Ctrl (Windows) or ⌘ (OS X) to adjust the volume fader in fine increments. When adjusting volume, remember to watch your audio meters. Because you are adding the volumes of all of the tracks together, it is easy to clip the audio output. Make sure that the meters never display the red Clip indication during playback. For more information, see "Monitoring audio levels" on page 118. The meter in the Track Inspector shows audio levels for the selected channel. The meter in the activity pane at the top of the Catalyst Edit window shows the sum of all audio at the cursor position.
Channel pan	Drag the knob to control the position of the channel in the stereo field: dragging to the down or to the left will place the audio in the left speaker more than the right, and dragging up or to the right will place the audio in the right speaker. Double-click the knob to reset panning to the center. Dragging the **Pan** knob in the Track Inspector also adjusts the **Pan** knob on the track header. The **Channel pan** knob is not displayed for channels that are assigned to a mono output.

Item	Description
Pan mode	Click the **Pan mode** button and choose a setting from the menu to choose the panning model that is used for the channel:  Please see "Pan mode" on page 54 for descriptions of the available pan modes.
Mute	Click M to mute/unmute the selected channel. When a channel is muted, it is excluded from the audio mix. You can enable the M button on additional channels to add them to the mute group. Clicking the **Mute** button in the Track Inspector also updates the **Mute** button on the track header.
Solo	Click S to solo/unsolo the selected channel. When a channel is soloed, all unsoloed channels are effectively muted. Click the S button on additional channels to add them to the solo group. To remove a channel from the solo group, click its S button again. Clicking the **Solo** button in the Track Inspector also updates the **Solo** button on the track header.

Video Effects

When the selected track has effects applied to it, you can use the Video Effects controls to control the settings for each effect. For more information, see "Adding effects to a track" on page 92.

Click the **Delete** button to remove a plug-in from the chain.

Click the **Mute** button to bypass a plug-in without removing it from the chain.

Drag a plug-in's heading to change its position in the plug-in chain.

Click the toggle arrow to show or hide each plug-in's controls.

Adjusting timeline settings

Click the **Timeline settings** button above the timeline to display the Timeline Settings menu, where you can adjust various settings for the project timeline.

When you add the first video clip to a project, the timeline settings are automatically adjusted to match the media properties. For more information, see "Adding media and creating clips" on page 35.

Adjusting track height

Adjusting track height allows you to gain a wider view of your project or focus on a specific track.

1. Click the **Timeline settings** button above the timeline.
2. Drag the **Track height** slider to the left to make all tracks shorter, or drag to the right to make all tracks taller.

   If you want to adjust the size of the video preview to increase or decrease the size of the timeline, drag the splitter between the video preview and timeline.

Showing or hiding the marker ruler

1. Click the **Timeline settings** button above the timeline.
2. Click the **Marker ruler** switch to show or hide the marker ruler.

   For more information, see "Using markers" on page 78.

Chapter 6

Clip editing

Clips are containers that represent an occurrence of a media file on the Catalyst Edit timeline. A clip can represent an entire media file or a portion of it. A single media file can be used repeatedly to create any number of different clips, since each clip can be trimmed independently. A clip's position on the timeline determines when it will be played back in your project.

Editing tools

The **Tools** button below the timeline allows you to select the active editing tool.

Click the button and choose a tool from the menu.

Tool	Description
	Edit Tool: Use the Edit Tool to select, trim, and move clips on the timeline. For more information, see "Trimming clips" on page 64 and "Moving clips" on page 62. Press E when the timeline has focus to switch to the Edit Tool. Hold Shift while dragging the end of the audio or video stream with the Edit Tool to enable Edit Streams mode temporarily. For more information, see "Stream editing (L-J cuts and rolls)" on page 67. Hold E to switch to the Edit Tool temporarily. When you're finished editing, release the E key, and the previous editing tool will be restored.
	Roll Trim Tool: Use the Roll Trim Tool to trim the edges of two adjacent clips simultaneously. For more information, see "Trimming clips" on page 64. Press R when the timeline has focus to switch to the Roll Trim Tool. Hold Shift while dragging the end of the audio or video stream with the Roll Trim Tool to enable Edit Streams mode temporarily. For more information, see "Stream editing (L-J cuts and rolls)" on page 67. Hold R to switch to the Roll Trim Tool temporarily. When you're finished editing, release the R key, and the previous editing tool will be restored.
	Select Tool: Use the Select Tool to select clips. For more information, see "Selecting clips and positioning the cursor" on page 61. Press C when the timeline has focus to switch to the Select Tool. Hold C to switch to the Select Tool temporarily. When you're finished selecting clips, release the C key, and the previous editing tool will be restored.

Tool	Description
	Slip Tool: Use the Slip Tool to select, slip, and slip trim clips. For more information, see "Slipping clips" on page 69. Press P when the timeline has focus to switch to the Slip Tool. Hold P to switch to the Slip Tool temporarily. When you're finished editing, release the P key, and the previous editing tool will be restored.
	Split Trim Tool: Use the Split Trim Tool to split and trim clips by clicking where you want to split and dragging to trim the resulting clip. If you click without dragging, the clip is split at the point you click. For more information, see "Trimming clips" on page 64. Press T when the timeline has focus to switch to the Split Trim Tool. Hold T to switch to the Split Trim Tool temporarily. When you're finished editing, release the T key, and the previous editing tool will be restored.
	Fade Tool: Use the Fade Tool to adjust the level or opacity of a clip and adjust fade in/out curves. For more information, see "Clip fades" on page 81. Press F when the timeline has focus to switch to the Fade Tool. Hold F to switch to the Fade Tool temporarily. When you're finished editing, release the F key, and the previous editing tool will be restored.
	Envelope Tool: Use the Envelope Tool to automate volume over the length of the clip. For more information, see "Clip volume automation" on page 82. Press V when the timeline has focus to switch to the Envelope Tool. Hold Shift while dragging the end of the audio or video stream with the Envelope Tool to enable Edit Streams mode temporarily. For more information, see "Stream editing (L-J cuts and rolls)" on page 67. Hold V to switch to the Envelope Tool temporarily. When you're finished editing, release the V key, and the previous editing tool will be restored.

Selecting clips and positioning the cursor

Selecting data and positioning the cursor are the first steps in a variety of editing tasks.

You can select clips with any of the editing tools, but using the Select tool helps ensure that clips cannot be moved during selection For more information, see "Editing tools" on page 59.

Press Ctrl+A (Windows) or ⌘-A (OS X) to select all clips.

Selecting a single clip

Click a clip to select it and deselect other selected clips.

If you want to select a clip without moving the cursor, click the clip header:

If you want to deselect all selected clips, click a blank area of the timeline.

Selecting multiple adjacent clips

Hold the Shift key and click the first and last clip that you want to select. All clips between the first and last clip you clicked are selected.

Selecting multiple nonadjacent clips

1. Click the **Tools** button below the timeline and select the Select Tool .

   Hold Ctrl (Windows) or ⌘ (OS X) while clicking clips with the Edit Tool , Roll Trim , Slip Tool , or Fade Tool .

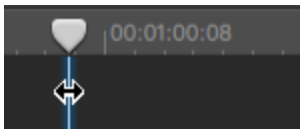
2. Click the clips you want to select. The selected clips are highlighted.

   To deselect a clip, simply click it again.

Positioning the cursor

To set the cursor position, click in the timeline or time ruler. The cursor moves to the position you click, and the cursor position is displayed below the video preview.

If you want to position the cursor without changing your clip selection, you can drag the cursor or playhead:



Moving clips

A clip's position on the timeline determines where it will be played in your project.

Dragging a clip to a new position

Dragging is the simplest way to move clips in your project. You can drag a clip so it occurs earlier or later in your project, or you can drag a clip to another track.

1. Click the **Tools** button below the timeline and select the Edit Tool .
2. Select the clips you want to move. For more information, see "Selecting clips and positioning the cursor" on page 61.
3. Drag the clip to the position where you want it to be played.

   If ripple mode is enabled, all subsequent clips will ripple automatically. For more information, see "Ripple edits" on page 75.

   Ripple mode is temporarily suspended when dragging a clip to a different track.

   Drag a clip to a blank area of the timeline to create a new track.
4. Release the mouse button.

Moving multiple clips

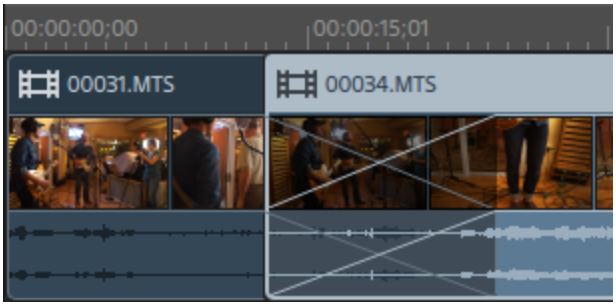
1. Click the **Tools** button below the timeline and select the Edit Tool .
2. Select the clips you want to move. For more information, see "Selecting clips and positioning the cursor" on page 61.
3. Drag the clips to the position where you want them to be played. If ripple mode is enabled, all subsequent clips will ripple automatically. For more information, see "Ripple edits" on page 75.
4. Release the mouse button.

Creating crossfades

When you overlap two clips, a crossfade is applied to transition between the two clips.

1. Click the **Tools** button below the timeline and select the Edit Tool .
2. Select the clips you want to move. For more information, see "Selecting clips and positioning the cursor" on page 61.
3. Drag the clip so it overlaps another clip. If ripple mode is enabled, all subsequent clips will ripple automatically. For more information, see "Ripple edits" on page 75.

   Fades are applied in the overlapping area.



Creating contained clips

When a shorter clip is placed in the middle of another clip, the first clip plays, a cut transitions to the second clip, and a cut transitions back to the first clip.

1. Click the **Tools** button below the timeline and select the Edit Tool .
2. Select a clip. For more information, see "Selecting clips and positioning the cursor" on page 61.
3. If needed, trim the shorter clip that you want to use as a contained clip. For more information, see "Trimming clips" on page 64.
4. Drag the shorter clip on top of the longer clip. If ripple mode is enabled, all subsequent clips will ripple automatically. For more information, see "Ripple edits" on page 75.

   When you play your project, the first clip plays, a cut transitions to the second clip, and a cut transitions back to the first clip. Fades are not applied to contained clips.

Trimming clips

Trimming a clip allows you to control which part of the clip is played on the timeline.

The Video Preview window temporarily enters split-screen preview mode when trimming, roll-trimming, split-trimming, or slip-trimming clips. This temporary split-screen mode allows you to see both sides of the edit at once:

- When trimming the left edge of a clip, the left side of the preview displays the last frame from the previous clip (black if there is no previous clip), and the right side of the preview displays the first frame from the clip being trimmed.
- When trimming the right edge of a clip, the left side of the preview displays the last frame from the clip being trimmed, and the right side of the preview displays the first frame from the next clip (black if there is no next clip).
- When slip trimming the left or right edge of a clip, the left side of the preview displays the first frame from the clip being trimmed, and the right side of the preview displays the last frame from the clip being trimmed.

When splitting or trimming clips that contain audio, an invisible fade is applied at the edit to soften potentially harsh transitions.

Trimming the start of end of a clip

1. Click the **Tools** button below the timeline and select the Edit Tool .

   Hold E to switch to the Edit Tool temporarily. When you're finished editing, release the E key, and the previous editing tool will be restored.

2. Drag either end of a clip to change its starting or ending point. The media on the timeline does not move, but the start or end point of the clip will change with the clip edge.

   If ripple mode is enabled, all subsequent clips will ripple automatically. For more information, see "Ripple edits" on page 75.

   If snapping is enabled, the clip edge will snap to available snap points as you drag it. For more information, see "Clip snapping" on page 76.

   If you drag the end of the clip past the length of the source clip, the clip is bound to the clip length.

   If you trim a clip until its length is zero, the clip is deleted from the timeline.

   If multiple clips are selected before you start trimming, the clip you trim remains selected, and the other clips are deselected.

   To trim small clips, you may need to zoom in to the timeline.
   To change the magnification level of the timeline, you can drag the slider above the time ruler or click the **Zoom Out** or **Zoom In** buttons.

Split trimming a clip

1. Click the **Tools** button below the timeline and select the Split Trim Tool .

   Hold T to switch to the Split Trim Tool temporarily. When you're finished editing, release the T key, and the previous editing tool will be restored.

2. Click a clip and drag to split the clip at the point you click and trim the clip in the direction you drag (eraser mode).

   If ripple mode is enabled, all subsequent clips will ripple automatically. For more information, see "Ripple edits" on page 75.

   If snapping is enabled, the clip edge will snap to available snap points as you drag it. For more information, see "Clip snapping" on page 76.

   If you drag the end of the clip past the length of the source clip, the clip is bound to the clip length.

   If you trim a clip until its length is zero, the clip is deleted from the timeline.

Slip-trimming a clip

1. Click the **Tools** button below the timeline and select the Slip Tool .

   Hold P to switch to the Slip Tool temporarily. When you're finished editing, release the P key, and the previous editing tool will be restored.

2. Drag the right or left edge of a clip.

   As you drag the clip edge, the opposite edge of the clip will remain fixed, trimming the media from the edge you drag.

   If ripple mode is enabled, all subsequent clips will ripple automatically. For more information, see "Ripple edits" on page 75.

   If snapping is enabled, the clip edge will snap to available snap points as you drag it. For more information, see "Clip snapping" on page 76.

Trimming adjacent clips (roll trim)

1. Click the **Tools** button below the timeline and select the Roll Trim Tool .

   Hold R to switch to the Roll Trim Tool temporarily. When you're finished editing, release the R key, and the previous editing tool will be restored.

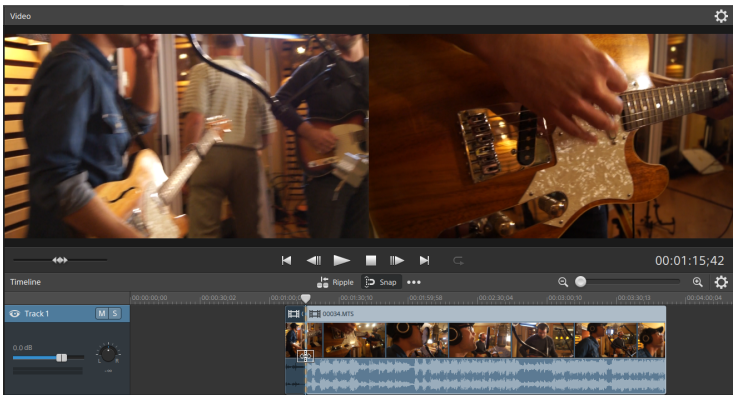
2. Drag the edge between two adjacent clips. The edges of the clips are trimmed simultaneously in the direction you drag.

   If snapping is enabled, the clip edge will snap to available snap points as you drag it. For more information, see "Clip snapping" on page 76.

   If you drag the end of the clip past the length of the source clip, the clip is bound to the clip length.

   If you trim a clip until its length is zero, the clip is deleted from the timeline.

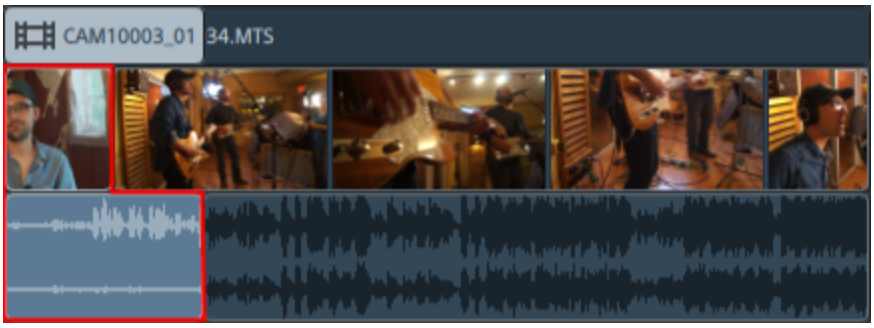
   As you drag, the video preview switches to a split-screen preview to allow you to see the frame on either side of the edit:



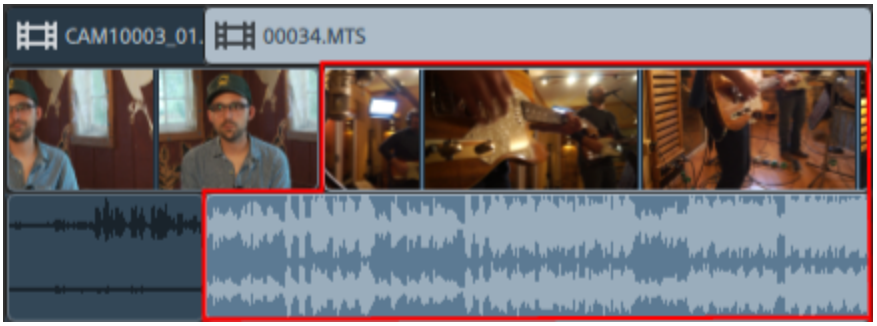
Stream editing (L-J cuts and rolls)

Stream editing allows you to trim a clip's audio and video separately while still keeping both streams combined in a single timeline clip so that you can quickly and easily create J and L cuts.

- In an L cut or roll, the audio from the first clip continues after the video has been trimmed, allowing the user to see the new scene before hearing its audio:



- In a J cut or roll, the audio from the second clip begins before the video, allowing the user to hear the new scene's audio before seeing the video.



1. Click the **Tools** button below the timeline and select the Edit Tool , Roll Trim Tool , or Envelope Tool .

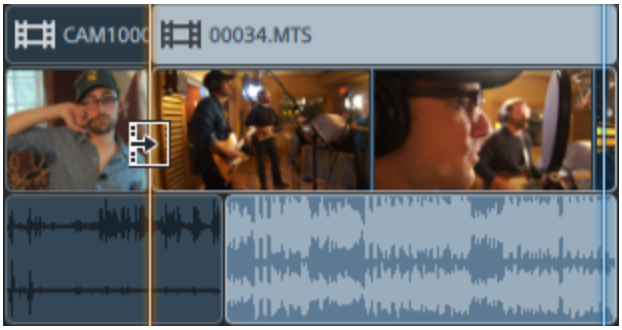
   Hold E to switch to the Edit Tool temporarily. When you're finished editing, release the E key, and the previous editing tool will be restored.

2. Select the **Edit Streams** button below the timeline (or press Shift+E).

   Hold Shift while dragging the end of the audio or video stream with the Edit Tool, Roll Trim Tool, or Envelope Tool to enable Edit Streams mode temporarily.

3. Drag either end of a clip's audio or video stream to change its starting or ending point. The media on the timeline does not move, but the start or end point of the stream will change with the clip edge.

   If snapping is enabled, the stream edge will snap to available snap points as you drag it. For more information, see "Clip snapping" on page 76.

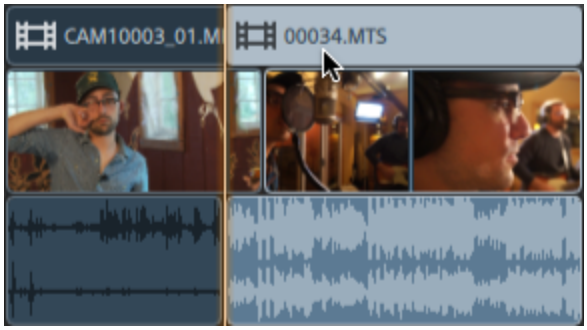


   If you drag the end of the clip past the length of the source clip, the clip is bound to the clip length.

   If multiple clips are selected before you start trimming, the clip you trim remains selected, and the other clips are deselected.

   To trim small clips, you may need to zoom in to the timeline.
   To change the magnification level of the timeline, you can drag the slider above the time ruler or click the **Zoom Out** or **Zoom In** buttons.

   If you want to move a clip, drag its header. If ripple mode is enabled, all subsequent clips will ripple automatically. For more information, see "Ripple edits" on page 75.



Splitting clips

Splitting a clip allows you to adjust a small part of a clip or break a single clip into multiple sections that you can edit independently.

1. Click the timeline to position the cursor where you want to split the clip. You can use any of the available editing tools.

   For more information, see "Editing tools" on page 59.

2. Select the clips you want to split.

3. Click the **Clip** button below the timeline and choose **Split** from the menu (or press S).

   The clip is split at the cursor position, and the clip to the right of the split point is selected.

   If no clips are selected, the clips located at the current cursor position will be split throughout all of the tracks.

   When splitting or trimming clips that contain audio, an invisible fade is applied at the edit to soften potentially harsh transitions.

Slipping clips

To help you picture what happens when you slip clips, think of a clip as a window to a media file. The window can display the entire media file or a small section.

When the window displays only a portion of the media file, you can move either the window or the underlying media to adjust the media that is played by a clip: when you slip a clip, your clip maintains its place on the timeline, but the media file moves in the direction you drag.

The Video Preview window temporarily enters split-screen preview mode when slipping or slip-trimming clips. This temporary split-screen mode allows you to see both sides of the edit at once:

- When slip trimming the left or right edge of a clip, the left side of the preview displays the first frame from the clip being trimmed, and the right side of the preview displays the last frame from the clip being trimmed.
- When slipping a clip, the left side of the preview displays the first frame from the clip being slipped, and the right side of the preview displays the last frame from the clip being slipped.

Slipping a clip

1. Click the **Tools** button below the timeline and select the Slip Tool .

   Hold P to switch to the Slip Tool temporarily. When you're finished editing, release the P key, and the previous editing tool will be restored.

2. Drag the clip. The slip cursor is displayed:

   As you drag the clip, the contents of the clip shift, but the clip will not move. You can use this technique when you want to maintain a clip's length and position, but have the clip play a different section of the source media file.

   Press Esc when dragging to cancel a slip.

   Slipping is available only when a clip is shorter than its source media. If you want to slip a clip that represents a full clip, trim the clip first or use slip-trim. For more information, see "Trimming clips" on page 64.

Slip-trimming a clip

1. Click the **Tools** button below the timeline and select the Slip Tool .

   Hold P to switch to the Slip Tool temporarily. When you're finished editing, release the P key, and the previous editing tool will be restored.

2. Drag the right or left edge of a clip.

   As you drag the clip edge, the opposite edge of the clip will remain fixed, trimming the media from the edge you drag.

   If ripple mode is enabled, all subsequent clips will ripple automatically. For more information, see "Ripple edits" on page 75.

   If snapping is enabled, the clip edge will snap to available snap points as you drag it. For more information, see "Clip snapping" on page 76.

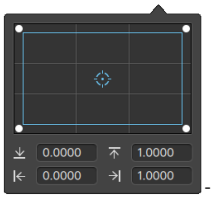
Cropping clips

The Crop effect allows you to reframe the viewable area of a clip.

1. Select the clip you want to edit.
2. Click the **Clip** button below the timeline and choose **Crop** from the menu.

3. In the Inspector, use the Clip tab to view and edit crop settings for the selected clip.

   For more information, see "Using the Clip Inspector" on page 86.

Item	Description
Position	The drop-down list displays the current position of the video in the frame. Click to display an edit control you can use to frame your video.  Drag the corners of the rectangle in the edit control or type values in the edit boxes to set the position of each corner of the frame. Drag a corner of the rectangle to preserve aspect ratio while resizing. Hold Shift while dragging the corners of the rectangle to resize and adjust aspect ratio. Hold Alt (Windows) or Option (OS X) to resize the rectangle from the center. Hold Ctrl (Windows) or ⌘ (OS X) to adjust the controls in fine increments. When a corner is selected, you can use the arrow keys to adjust the selected corner, or press Ctrl (Windows) or ⌘ (OS X) + the arrow keys to adjust in fine increments. Drag the edges of the rectangle to resize the rectangle. Drag an edge of the rectangle to preserve aspect ratio while resizing. Hold Shift while dragging an edge to resize and adjust aspect ratio. Hold Alt (Windows) or Option (OS X) to resize the rectangle from the center. Hold Ctrl (Windows) or ⌘ (OS X) to adjust the controls in fine increments. Drag the center of the rectangle to move without resizing, or double-click the point to reset it. Hold Shift while dragging to constrain to horizontal/vertical/45-degree movement. Hold Ctrl (Windows) or ⌘ (OS X) to adjust the controls in fine increments. When the rectangle is selected, you can copy the position of the rectangle to paste to another clip.
Angle	Type a value in the box or drag the slider to rotate the crop frame.

Item	Description
Flip horizontal	Click to invert the video horizontally.
Flip vertical	Click to invert the video vertically.
Zoom	When **Zoom** is on, the output frame aspect ratio matches the crop rectangle you set using the **Position** rectangle, allowing the cropped clip to fill the output frame. When **Zoom** is off, the video is cropped using a transparent background.

Cutting, copying, and pasting clips

Catalyst Edit allows you to cut, copy, and paste clips them into new positions on the timeline. You can paste a clip within the same track or to a new track.

Cutting clips

1. Select the clips you want to cut. For more information, see "Selecting clips and positioning the cursor" on page 61.
2. Click the **Clip** button below the timeline and choose **Cut** from the menu or press Ctrl+X (Windows) or ⌘+X (OS X).

   The clip and its properties are removed from the timeline and moved to the clipboard. For more information, see "Using the Clip Inspector" on page 86.

Copying clips

1. Select the clips you want to copy. For more information, see "Selecting clips and positioning the cursor" on page 61.
2. Click the **Clip** button below the timeline and choose **Copy** from the menu or press Ctrl+C (Windows) or ⌘+C (OS X).

   The clip and its properties are copied to the clipboard. For more information, see "Using the Clip Inspector" on page 86.

Pasting clips

1. Stop playback.
2. **Select the track where you want to paste.**
3. Click the timeline to position the cursor where you want to paste the clips.
4. Click the **Clip** button below the timeline and choose **Paste** from the menu or press Ctrl+V (Windows) or ⌘+V (OS X).
5. The clips from the clipboard are pasted at the cursor position in the focus track.

   The pasted clip retains the properties of the clip you copied. For more information, see "Using the Clip Inspector" on page 86.

   Pasted clips will sit on top of other clips in the track if they overlap. To make space for pasted clips, you can split the clip at the cursor position and select the **Ripple** button above the timeline before pasting. For more information, see "Splitting clips" on page 69 and "Ripple edits" on page 75.

Deleting clips

Deleting a clip removes it from the track without modifying the media file on your computer.

1. Select the clips you want to delete. For more information, see "Selecting clips and positioning the cursor" on page 61.

   Hold Shift while clicking to select a range of clips.

   Hold Ctrl (Windows) or ⌘ (OS X) to select multiple, nonadjacent clips.

2. Click the **Clip** button below the timeline and choose **Delete** from the menu.

Ripple edits

When the **Ripple** button above the timeline is enabled, clips and markers that occur later on a track are shifted automatically when any of the following edits are performed:

- Adjusting a clip's length by trimming or slip-trimming.
- Moving clips.
- Deleting clips.
- Cutting clips.
- Pasting clips.

When **Ripple** is not enabled, clip edits will not affect other clips and markers on the timeline.

Turning off ripple synchronization for individual tracks

When **Ripple** is first enabled, ripple edits are enabled for all tracks. Edit operations on a any track ripple downstream clips on all tracks.

If you want to turn ripple editing off for a track, use the **Ripple sync** switch on the Track Inspector. For more information, see "Using the Track Inspector" on page 52.

The **Ripple sync** switch is available only when the **Ripple** button above the timeline is enabled.

When **Ripple sync** is turned off, an indicator is displayed in the track header, and a striped background is displayed in the timeline to indicate that you can move clips on a track freely even when ripple editing is selected:

Clip snapping

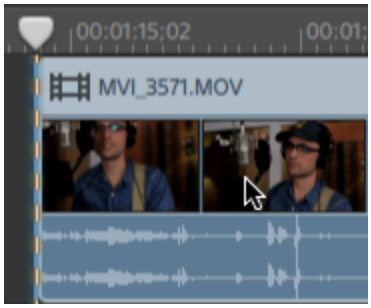
Click the **Snap** button above the timeline to turn snapping on or off in the main timeline.

Snapping helps you align items along the timeline when you add clips, move clips, trim clips, or position the cursor. As you drag clips or markers, an indicator is displayed across the height of the timeline to show snap points.

When snapping is enabled, you can hold the Shift key to temporarily override snapping.

When snapping is not enabled, you can hold the Shift key to temporarily enable snapping.

If you drag to a snap point that does not occur on a frame boundary when **Quantize to frames** is enabled, the snap indicator is displayed as a dashed line to indicate that the snap point will be quantized to the nearest frame boundary. For more information, see "Quantize to frames" on page 77.



Turning snapping on or off

Click the **Snap** button above the timeline to turn snapping on or off in the main timeline.

When snapping is enabled, clips and markers will snap to the following points on the timeline:

- The cursor (when playback is stopped).
- Markers.
- Clip edges on the same track.
- Clips on different tracks (when **Snap to All** is enabled).

Snapping to clips on other tracks

When snapping is enabled, you can also choose to have elements in the timeline snap to the ends of clips on other tracks.

Click the **Editing Behaviors** button and click **All**. When **All** is selected, clips will snap to clip edges on other tracks, and the button is displayed as .

When **Track** is selected, clips will snap to clip edges only on their own tracks, and the button is displayed as .

Quantize to frames

Edits that do not occur on frame boundaries can produce an undesirable visual result. For example, if you split two clips and move them together to create a cut, splits that are not at frame boundaries can produce a short dissolve in your rendered video.

Click the **Editing Behaviors** button ••• above the timeline and select **Quantize to frames** to force edits to occur on project frame boundaries.

This setting is independent of clip snapping. For more information, see "Clip snapping" on page 76.

When **Quantize to frames** is turned on, the following actions will always occur on frame boundaries:

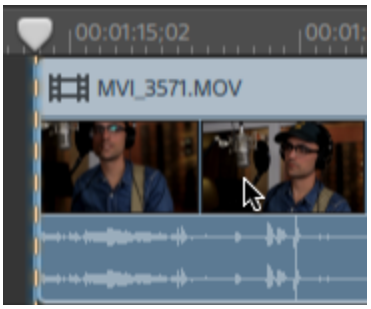
- Moving video clips

  If **Quantize to Frames** is on while dragging an audio clip and the selection group contains video, the movement is quantized so the first video clip is quantized (instead of the audio clip).

  Audio-only clips are not quantized.

- Splitting and trimming clips

If you drag to a snap point that does not occur on a frame boundary when **Quantize to Frames** is enabled, the snap indicator is displayed as a dashed line to indicate that the snap point will be quantized to the nearest frame boundary. For more information, see "Clip snapping" on page 76.



Using markers

Markers can be used to indicate points of interest in projects or to make notes in the project.

Adding a marker

1. Click to select a track and position the timeline cursor where you want to add the marker.
2. Click the **Add** button + below the timeline and choose **Marker**. The marker is created on the marker ruler above the timeline.

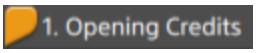
   Double-click an empty area of the marker ruler to add a marker quickly.

Selecting a marker

Click a marker tag to select it.

Naming a marker

1. Double-click the marker you want to edit. The Marker popup is displayed.
2. Type a name in the **Name** box. The name in the marker ruler is updated to use the new name.



Changing a marker's color

1. Double-click the marker you want to edit. The Marker popup is displayed.
2. Click a color swatch. The marker tag is updated to use the new color.

Deleting a marker

1. Double-click the marker you want to delete. The Marker popup is displayed.
2. Click the **Delete** button.

Moving a marker

Drag the marker tag to a new location.

Hold Shift while dragging to temporarily override the current snapping setting.

Showing or hiding the marker ruler

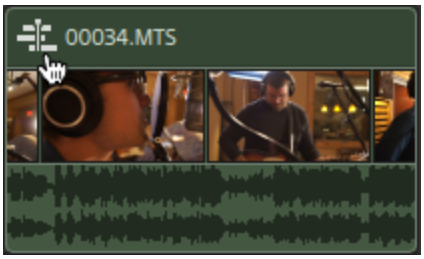
1. Click the **Timeline settings** button above the timeline.
2. Drag the **Marker ruler** slider to the left to show the marker ruler, or drag to hide it.

Nested timelines

Nesting allows you to add a Catalyst Edit subordinate timeline to another project. Nesting can help you organize a timeline or create other effects:

- Create a single element — such as a lower-third graphic or watermark — that you can use in multiple timeline locations or projects.
- Create a complex composited element that you can use as a single media object in the timeline.
- Create a separate timeline for each scene in a video and nest those timelines in a master video project.
- Add a Catalyst Prepare storyboard to the timeline.
- Add a Catalyst Browse clip list to the timeline.

Clips with nested timelines are displayed in green:



Creating a nested timeline

1. Select the clips you want to include in your nested timeline. The selection must contain a contiguous range of clips (no spaces between clips).For more information, see "Selecting clips and positioning the cursor" on page 61.

2. Click the **Clip** button below the timeline and choose **Create nested timeline** from the menu. The selected clip starts at the 00:00:00;00 position in the new nested timeline.

   You can edit the new nested timeline as you would any other project, adding tracks and clips as needed.

   When you need to return to the parent timeline, use the breadcrumb trail at the top-left corner of the timeline.

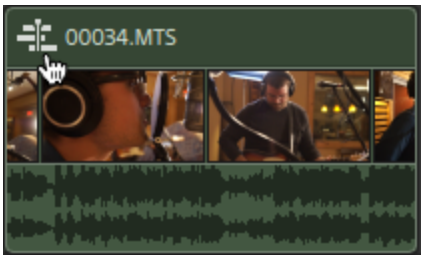
   If clips contain automation envelopes before you create a nested timeline, the clip automation envelopes are available in the clips in the nested timeline. The parent clip will use the default single-point envelope. For more information, see "Clip volume automation" on page 82.

   You can create a nested timeline from a Catalyst Prepare storyboard ( ) or a Catalyst Browse clip list by adding the storyboard/clip list to the Catalyst Edit timeline. For more information about using media from a Catalyst Prepare library ( ), see "Finding media" on page 21.

Opening a nested timeline

1. Select a clip that contains a nested timeline. For more information, see "Selecting clips and positioning the cursor" on page 61.

2. Click the **Clip** button below the timeline and choose **Open nested timeline** from the menu or click the clip icon in the clip header.

   The selected timeline is opened.

   The cursor position is maintained when you navigate into or out of a nested timeline.

   You can edit the new nested timeline as you would any other project, adding tracks and clips as needed.

   When you need to return to the parent timeline, use the breadcrumb trail at the top-left corner of the timeline.

Clip fades

You can use the Fade Tool to control a clip's fade-in, fade-out, and overall level or opacity.

For more advanced volume control, you can use the Clip Automation Tool. For more information, see "Clip volume automation" on page 82.

Adjusting a clip's volume or opacity

1. Click the **Tools** button below the timeline and select the Fade Tool .

   Hold F to switch to the Fade Tool temporarily. When you're finished editing, release the F key, and the previous editing tool will be restored.

2. Hover over the top of the video or audio portion of a clip until the fade cursor is displayed:

3. Drag the line to the desired level. As you drag the line, the clip's gain or opacity is adjusted.

   As you decrease the setting, a clip becomes more transparent, allowing clips on lower tracks to show through the clip.

   Adjusting the clip's gain or opacity also adjusts the **Gain** or **Opacity** setting in the Clip Inspector. For more information, see "Using the Clip Inspector" on page 86.

Adjusting a clip's fade in or fade out

1. Click the **Tools** button below the timeline and select the Fade Tool .

   Hold F to switch to the Fade Tool temporarily. When you're finished editing, release the F key, and the previous editing tool will be restored.

2. Hover over the left or right edge of a clip until the fade cursor is displayed:

3. Drag the corner of the clip to set the amount of time it takes the clip to fade in or out.

   If there are no clips on tracks below the selected clip, it will fade from/to black. If a clip is on a track below the selected clip, the lower clip will be visible during the fade.

   Adjusting the clip's fades also adjusts the **Fade in length** and **Fade out length** settings in the Clip Inspector. For more information, see "Using the Clip Inspector" on page 86.

   Double-click the fade between two clips with the Edit, Slip, or Fade tool to select a fade area and set the Mark In/Out region to match its length.

Clip volume automation

If you want to adjust a clip's volume over time, you can use an envelope to automate volume over the length of the clip.

For simple control over a clip's fade in, fade out, and overall level, you can use the Fade Tool. For more information, see "Clip fades" on page 81.

Clip automation envelopes are independent of clip fades. Using the Fade Tool to adjust the clip's gain or opacity also adjusts the **Gain** or **Opacity** setting in the Clip Inspector. For more information, see "Using the Clip Inspector" on page 86.

If clips contain automation envelopes before you create a nested timeline, the clip automation envelopes are available in the clips in the nested timeline. The parent clip will use the default single-point envelope. For more information, see "Nested timelines" on page 79.

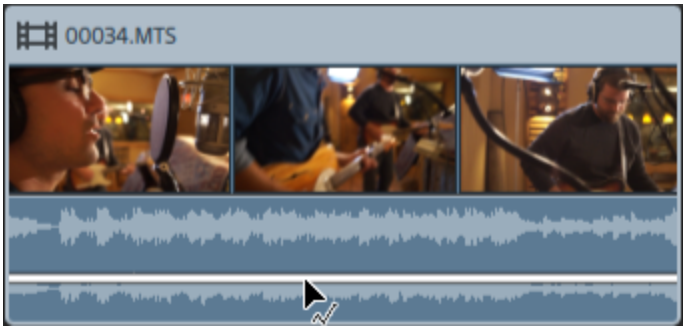
Adjusting a clip's volume

1. Click the **Tools** button below the timeline and select the Envelope Tool .

   Hold V to switch to the Envelope Tool temporarily. When you're finished editing, release the V key, and the previous editing tool will be restored.

   When the Envelope Tool is selected, each clip will display a volume automation envelope.

2. Drag the line to the desired level. As you drag the line, the clip's gain is adjusted.



   Drag down to make the clip quieter or drag up to make the clip louder.

   If you want to automate volume, add more points to the envelope.

Adding envelope points

To create more complex envelopes, you will need to add points. To add an envelope point, double-click the envelope with the Envelope Tool . A new envelope point will be added.

To add a point, right-click it with the Envelope Tool and choose **Add point**.

To delete a point, right-click it with the Envelope Tool and choose **Delete**.

To reset an envelope to its default state, right-click an envelope segment or point with the Envelope Tool and choose **Reset all points**.

Adjusting an envelope

By default, a new envelope will contain a single envelope point. If you want to adjust the overall level of an envelope, drag the envelope up or down with the Envelope Tool .

If an envelope has multiple points, you can drag each point, or you can drag envelope segments:

- Dragging up or down decreases or increases volume.
- Dragging left or right changes when the volume adjustment occurs.

  You cannot drag an envelope point past another point on the timeline.

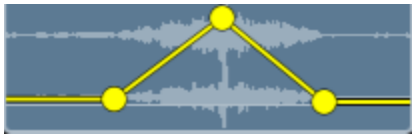
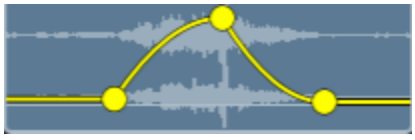
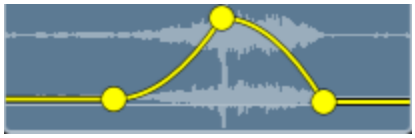
As you adjust the envelope, the clip's waveform is updated to reflect the new volume.

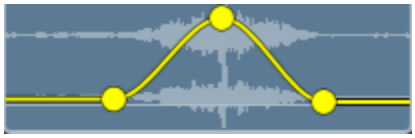
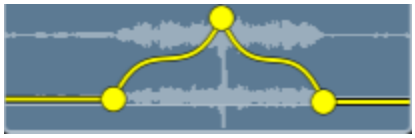
Right-click an envelope point with the Envelope Tool to display a shortcut menu where you can set the selected point to the maximum value (+12 dB), the default (0 dB), or the minimum value (-Inf dB).

To reset an individual point to 0 dB, double-click it with the Envelope Tool .

Setting fade curves

You can adjust the fade curve for each envelope segment individually. To change the fade curve, right-click an envelope segment and choose a command from the shortcut menu.

Fade Type	Fade In/Out Curve
Hold	
Linear	
Fast	
Slow	

Fade Type	Fade In/Out Curve
Smooth	
Sharp	

Flipping an envelope

Right-click an envelope point with the Envelope Tool and choose **Flip** to flip its position around the 0 dB baseline.

Right-click an envelope segment with the Envelope Tool and choose **Flip all** to flip an envelope around the 0 dB baseline.

For example, if an envelope point sets the volume to 3 dB, that point will set the volume to -3 dB after flipping the envelope. Values that are less than -12 dB will be 12 dB after flipping the envelope.

Replacing a clip's media

Replacing a clip's media preserves the length and position of a clip on the timeline, but replaces the media file that is displayed by the clip.

For information about relinking a project's media clips, please see "Relinking project media" on page 12.

1. In the timeline, select the clip you want to edit. For more information, see "Selecting clips and positioning the cursor" on page 61.
2. In the Media Browser, select the media file that you want to use to replace the selected clip.
3. Click the **Tools** button at the bottom of the Media Browser below the timeline and choose **Replace media with selection** from the menu.

   The clip and is updated to use the file from the Media Browser.

   If you replace a clip with a shorter media file, the last frame of the new file will repeat until the end of the clip.

   If you replace a clip with a longer media file, the clip length does not change.

   You can trim the clip to match the length of the new media file. For more information, see "Trimming clips" on page 64.

Undoing and redoing edit operations

Undo and Redo give you the freedom to experiment with your project.

Undoing the last action performed

Click the **Tools** button below the timeline and choose **Undo** or press Ctrl+Z (Windows) or ⌘+Z (OS X).

Reversing the last Undo performed

Click the **Tools** button below the timeline and choose **Redo** or press Ctrl+Shift+Z (Windows) or ⌘+Shift+Z (OS X).

Using the Clip Inspector

In the Inspector, select the Clip tab to view and edit settings for the selected clip.

Click a clip to select it, and the Clip tab is displayed automatically if the Inspector is visible.

Summary

Item	Description
Name	Type a value in the **Name** box to set the name of the selected clip. The name you type here will be displayed in the clip:
Media	Displays the source file name for the selected clip. When a clip from a Catalyst Prepare library ( ) is selected, you can click the **Refresh** button to update the clip's properties from the Catalyst Prepare library.
Folder	Displays the name of the folder where the source clip is stored. Click the folder name to open the location in Windows Explorer or Finder.
Library	When a clip from a Catalyst Prepare library ( ) is selected, the **Library** box displays the name of the clip's source library.

Item	Description
Streams	When a clip with audio and video streams is selected, you can click a button to indicate which streams should be included in the timeline. ■ Click **Audio** to include only the audio stream. The video thumbnails will be hidden in the clip and excluded when you render your project. ■ Click **Video** to include only the video stream. The audio waveform will be hidden in the clip and excluded when you render your project. ■ Click **Both** to include the audio and video streams in the clip. The **Streams** controls are not displayed when an audio-only or video-only clip is selected.

Editing

Item	Description
Start	Click the value and type a new value to trim the beginning of the selected clip to the specified timeline position. For example, if the current **Start** value is 0.00, typing 10.00 will move the beginning of the clip ten seconds later on the timeline. If ripple mode is enabled, all subsequent clips will ripple automatically. For more information, see "Ripple edits" on page 75.
End	Click the value and type a new value to trim the end of the selected clip to the specified timeline position. For example, if the current **End** value is 60.00, typing 50.00 will move the end of the clip ten seconds earlier on the timeline. If ripple mode is enabled, all subsequent clips will ripple automatically.
Length	Click the value and type a new value to set the length of the selected clip. The clip's start point remains fixed on the timeline, and the clip's end is modified as needed. If ripple mode is enabled, all subsequent clips will ripple automatically. If you set a clip's length to zero, the clip is deleted from the timeline.
Source offset	Click the value and type a new value to set the start time of the selected clip. Adjusting the clip's source offset slips the clip's media within the clip: use a negative offset to slip the media to the left or use a positive offset to slip the media to the right. For more information, see "Slipping clips" on page 69.
Fade in length	If a clip is not crossfaded with the previous clip, click the value and type a new value to set the amount of time it takes the clip to fade in. If there are no clips on tracks below the selected clip, it will fade in from black. If a clip is on a track below the selected clip, the lower clip will be visible during the fade. Editing this setting also affects the fade envelope on the clip. For more information, see "Clip fades" on page 81.

Item	Description
Fade out length	If a clip is not crossfaded with the previous clip, click the value and type a new value to set the amount of time it takes the clip to fade out. If there are no clips on tracks below the selected clip, it will fade out to black. If a clip is on a track below the selected clip, the lower clip will be visible during the fade. Editing this setting also affects the fade envelope on the clip. For more information, see "Clip fades" on page 81.
Opacity	Click the value and type a new value or drag the slider to set the opacity of a clip. Double-click the center of the thumb to reset the slider. Using a setting of 1.0, a clip is completely opaque; clips on lower tracks are not visible. As you decrease the setting, a clip becomes more transparent, allowing clips on lower tracks to show through the clip. Editing this setting also affects the fade envelope on the clip. For more information, see "Clip fades" on page 81.
Rate	Click the value and type a new value or drag the slider to set the playback rate of a clip. Double-click the center of the thumb to reset the slider. A setting of 1 will play at normal speed, while 0.5 will play at half speed. A setting of 0 will create a freeze-frame effect using the first visible frame of the clip. Each video clip in your project has a specific duration that is not changed by adjusting the playback rate. If you decrease the speed of a ten-second video event to .5, only five seconds of video will be shown. On the other hand, if the speed is increased to 2, the ten seconds of video will play in only five seconds. The remaining five seconds of the clip will be filled either with a freeze of the last frame or with ten additional seconds of video content from the media file (if the source media is longer than the clip).
Audio mode	Choose a setting from the drop-down list to choose how audio is stretched when you adjust the playback rate of a clip. ■ **None**: to time stretching or pitch shifting is applied. ■ **Time stretch**: audio is time-stretched to match the clip's rate, but the playback pitch is preserved. ■ **Pitch shift**: audio is time-stretched to match the clip's rate, and the playback pitch is raised or lowered to match the rate (faster playback raises the pitch; slower playback lowers the pitch).
Gain	Click the value and type a new value or drag the fader to adjust the volume of each audio channel in the selected clip. Double-click the center of the thumb to reset the fader. Editing this setting also affects the fade envelope on the clip. For more information, see "Clip fades" on page 81. When adjusting volume, remember to watch your audio meters. Because you are adding the volumes of all of the tracks together, it is easy to clip the audio output. Make sure that the meters never display the red Clip indication during playback. For more information, see "Monitoring audio levels" on page 118.

Channel Assignment

Click the speaker icon to turn a channel on or off .

Turning off a clip's unused channels allows you to remove those channels from the track list in the timeline.

Click the **Mono** or **Stereo** button to indicate whether a channel is a mono channel or part of a stereo pair. Enabling **Stereo** will pair the channel with the next channel in the list.

If you want to set all of a clip's channels at once, click the **Channel Tools** button and choose **Set all to mono**, **Set all to stereo**, or **Reset**.

Type a name in the edit box to identify the channel. For example, you might type **Lav1** to identify audio from a lavalier microphone.

Channels that are named identically in the Timeline Inspector and Clip Inspector will be matched.

When you add a clip from a Catalyst Prepare library ( ) to the Catalyst Edit timeline, any channel assignment settings that you made in the Catalyst Prepare library will be applied to the clip.

Title

When a title clip is selected, you can use the Title controls to control the appearance of your title text. For more information, see "Adding title clips" on page 94.

Video Effects

When the selected clip has effects applied to it, you can use the Video Effects controls to control the settings for each effect. For more information, see "Adding effects to a clip" on page 91.

Click the **Delete** button to remove a plug-in from the chain.

Click the **Mute** button to bypass a plug-in without removing it from the chain.

Drag a plug-in's heading to change its position in the plug-in chain.

Click the toggle arrow to show or hide each plug-in's controls.

Chapter 7

Applying effects

You can use effects to manipulate the video components of your project.

The included video plug-ins include effects, transitions, and text/background generators. Effects can be used to improve video quality or manipulate an image, transitions can change the way video events flow into one another, and generators can create text and backgrounds.

Using video effects

There are several methods available for applying effects to video. Video effects can be applied to clips, tracks, or to the entire video timeline.

Adding effects to a clip

Effects that you apply to a clip are applied only to that clip.

1. Click the **Plug-Ins** button at the top of the Catalyst Edit window to display the Plug-Ins pane and select the effect you want to use.
2. Select the clip where you want to apply the effect. For more information, see "Selecting clips and positioning the cursor" on page 61.
3. Click the **Add to Clip** button at the bottom of the Plug-Ins pane or drag the effect to the clip.

   An effects indicator is displayed on a clip when it has effects applied. You can click the indicator to display the effect's controls in the Clip Inspector.

4. Use the controls in the Clip Inspector to adjust the effect's settings.

   For more information, see "Using the Clip Inspector" on page 86.

   Click the **Delete** button to remove a plug-in from the chain.

   Click the **Mute** button to bypass a plug-in without removing it from the chain.

   Drag a plug-in's heading to change its position in the plug-in chain.

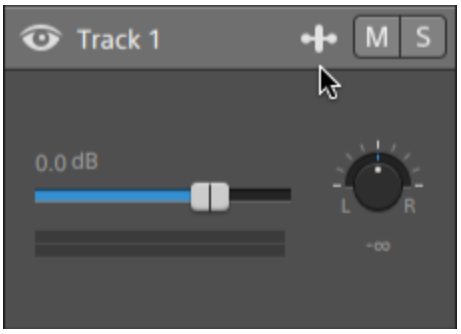
   Click the toggle arrow to show or hide each plug-in's controls.

Adding effects to a track

Effects that you apply to a track are applied to every clip on that track.

1. Click the **Plug-Ins** button at the top of the Catalyst Edit window to display the Plug-Ins pane and select the effect you want to use.
2. Click a track's header to select the track where you want to apply the effect.
3. Click the **Add to Track** button at the bottom of the Plug-Ins pane or drag the effect to the track header.

   An effects indicator is displayed on a track when it has effects applied. You can click the indicator to display the effect's controls in the Track Inspector.



4. Use the controls in the Track Inspector to adjust the effect's settings.

   For more information, see "Using the Track Inspector" on page 52.

   Click the **Delete** button to remove a plug-in from the chain.

   Click the **Mute** button to bypass a plug-in without removing it from the chain.

   Drag a plug-in's heading to change its position in the plug-in chain.

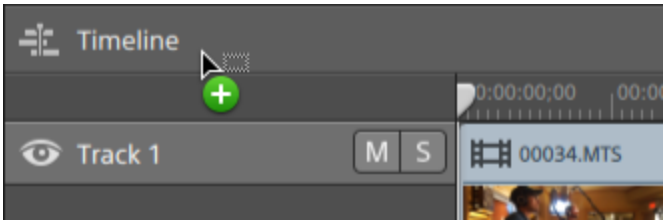
   Click the toggle arrow to show or hide each plug-in's controls.

Adding effects to the timeline

Effects that you apply to the timeline are a clip are applied only to that clip.

1. Click the **Plug-Ins** button at the top of the Catalyst Edit window to display the Plug-Ins pane and select the effect you want to use.

2. Click the **Add to Timeline** button at the bottom of the Plug-Ins pane or drag the effect to the timeline breadcrumb trail above the track list.



3. Use the controls in the Timeline Inspector to adjust the effect's settings.

   For more information, see "Using the Timeline Inspector" on page 13.

   Click the **Delete** button to remove a plug-in from the chain.

   Click the **Mute** button to bypass a plug-in without removing it from the chain.

   Drag a plug-in's heading to change its position in the plug-in chain.

   Click the toggle arrow to show or hide each plug-in's controls.

Using video generators

You can use video generators to create backgrounds, text, and textures in your project.

1. Click to select a track.
2. Click the **Plug-Ins** button at the top of the Catalyst Edit window to display the Plug-Ins pane.
3. Expand the Video Generators heading.
4. Click a video generator to select it.
5. Click the **Add Generator** button . The selected generator is added as a clip to the end of the selected track, and the new clip is selected.

   You can also drag a generator plug-in from the Plug-Ins pane to the timeline to create a clip.

   You can also use the **Add** button below the timeline to quickly add the Title, Solid Color, or Color Gradient plug-in to the selected track. For more information, see "Adding title clips" on page 94, "Adding solid-color clips" on page 98, or "Adding color-gradient clips" on page 99.
6. Use the controls in the Clip Inspector to adjust the generator's settings.

   For more information, see "Using the Clip Inspector" on page 86.

Adding title clips

You can add title clips to your project to create titles and credits.

Adding a title clip

1. Click to select a track.
2. Click the **Add** button below the timeline and choose **Title**. The clip is created on the timeline.

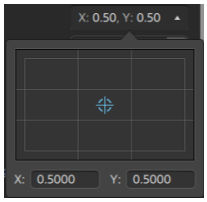
   You can also drag the Title generator from the Plug-Ins pane to the timeline to create a title clip.
3. Use the controls in the Clip Inspector to adjust the generator's settings.

Editing a title clip

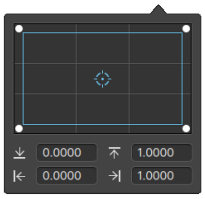
1. Select the clip you want to edit.
2. Click the Inspector button to show the Inspector pane.

3. In the Inspector, select the Clip tab to view and edit settings for the selected title clip.

   For more information, see "Using the Clip Inspector" on page 86.

Item	Description
Text	Type in the edit box to set the text that will be displayed by your clip.
Position	The drop-down list displays the current position of the text in the frame. Click to display an edit control you can use to position your text.  You can drag the point in the edit control or type values in the **X** and **Y** boxes to set the position of your text in the frame. Double-click the point to reset it. Hold Ctrl (Windows) or ⌘ (OS X) to adjust the point in fine increments.
Size	Type a value in the box or drag the slider to adjust the size of the text. Hold Ctrl (Windows) or ⌘ (OS X) to adjust the slider in fine increments. You can drag the slider past the end of the trackbar to unlock the full range of the control. When the value is set outside the range of the slider, the handle will be displayed as or .
Font	Choose a font from the drop-down list to set the typeface that will be used for your text.
Bold	Click to toggle boldface text for the selected clip.
Italic	Click to toggle italicized text for the selected clip.
Alignment	
Horizontal	Choose a setting from the drop-down list to indicate how your text is aligned within the text box and how the text box is aligned with the point specified by the **Position** value: ■ Select **Left** to left justify the text in the box and align the left edge of the text box with the **Position** point. ■ Select **Center** to center justify the text in the box and align the center of the text box with the **Position** point. ■ Select **Right** to right justify the text in the box and align the right edge of the text box with the **Position** point.

Item	Description
Vertical	Choose a setting from the drop-down list to indicate how your text box is aligned with the point specified by the **Position** value: ■ Select **Top** to align the top of the text box with the **Position** point. ■ Select **Center** to align the center of the text box with the **Position** point. ■ Select **Baseline** when you have a single line of text and want to align the text's baseline with the **Position** point. ■ Select **Bottom** to align the bottom of the text box with the **Position** point.
Color	Click the color sample to display a color picker, where you can choose a color or type color values to set the text color. You can also adjust the transparency (alpha value) of the text.
Rotation	Type a value in the box or drag the slider to adjust the angle of the text in the frame.
Background	
Color	Click the color sample to display a color picker, where you can choose a color or type color values to adjust the background. You can also adjust the transparency (alpha value) of the background. Adding a background color makes it easy to create a lower-third color box.

Item	Description
Location	Click to display an edit control you can use to position the text background.  You can drag the corners of the rectangle in the edit control or type values in the edit boxes to set the position of each corner of the background in the frame. Drag a corner of the rectangle to preserve aspect ratio while resizing. Hold Shift while dragging the corners of the rectangle to resize and adjust aspect ratio. Hold Alt (Windows) or Option (OS X) to resize the rectangle from the center. Hold Ctrl (Windows) or ⌘ (OS X) to adjust the controls in fine increments. When a corner is selected, you can use the arrow keys to adjust the selected corner, or press Ctrl (Windows) or ⌘ (OS X) + the arrow keys to adjust in fine increments. Drag the edges of the rectangle to resize the rectangle. Drag an edge of the rectangle to preserve aspect ratio while resizing. Hold Shift while dragging an edge to resize and adjust aspect ratio. Hold Alt (Windows) or Option (OS X) to resize the rectangle from the center. Hold Ctrl (Windows) or ⌘ (OS X) to adjust the controls in fine increments. Drag the center of the rectangle to move without resizing, or double-click the point to reset it. Hold Shift while dragging to constrain to horizontal/vertical/45-degree movement. Hold Ctrl (Windows) or ⌘ (OS X) to adjust the controls in fine increments. When the rectangle is selected, you can copy the position of the rectangle to paste to another clip.
Shadow	
Enable	Click to toggle a shadow behind your text.
Color	Click the color sample to display a color picker, where you can choose a color or type color values to set the shadow color. You can also adjust the transparency (alpha value) of the shadow.

Item	Description
Feather	Type a value in the box or drag the slider to blend the shadow with the background. Hold Ctrl (Windows) or ⌘ (OS X) to adjust the slider in fine increments.
Offset X/Y	Type a value in the box or drag the slider to offset the shadow from the center of your text. Hold Ctrl (Windows) or ⌘ (OS X) to adjust the slider in fine increments.
Outline	
Enable	Click to toggle an outline around your text.
Color	Click the color sample to display a color picker, where you can choose a color or type color values to set the outline color. You can also adjust the transparency (alpha value) of the outline.
Thickness	Type a value in the box or drag the slider to adjust the thickness of the text outline. Hold Ctrl (Windows) or ⌘ (OS X) to adjust the slider in fine increments.

Adding solid-color clips

You can add solid-color clips to your project to provide backgrounds behind overlays or graphics with transparency or for fades.

Adding a solid-color clip

1. Click to select a track.
2. Click the **Add** button + below the timeline and choose **Solid Color**. The clip is created on the timeline.

   You can also drag the Solid Color generator from the Plug-Ins pane to the timeline to create a title clip.
3. Use the controls in the Clip Inspector to adjust the generator's settings.

Editing a solid-color clip

1. Select the title clip you want to edit.
2. Click the Inspector button to show the Inspector pane.
3. In the Inspector, select the Clip tab to view and click the color sample to display a color picker, where you can choose a color or type color values to set the text color. You can also adjust the transparency (alpha value) of the color.

   For more information, see "Using the Clip Inspector" on page 86.

Adding color-gradient clips

You can add color-gradient clips to your project to provide an interesting variety of backgrounds behind overlays or graphics with transparency or for fades.

Adding a color-gradient clip

1. Click to select a track.
2. Click the **Add** button + below the timeline and choose **Color Gradient**. The clip is created on the timeline.

   You can also drag the Color Gradient generator from the Plug-Ins pane to the timeline to create a title clip.

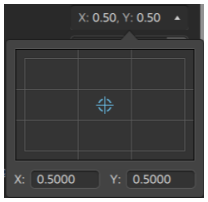
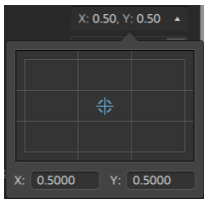
3. Use the controls in the Clip Inspector to adjust the generator's settings.

Editing a color-gradient clip

1. Select the title clip you want to edit.
2. Click the Inspector button to show the Inspector pane.

3. In the Inspector, select the Clip tab to view and edit settings for the selected title clip.

   For more information, see "Using the Clip Inspector" on page 86.

Item	Description
Type	Choose a setting from the drop-down list to choose the shape of the gradient.
Center	The drop-down list displays the current position of the gradient in the frame. Click to display an edit control you can use to position the gradient.  You can drag the point in the edit control or type values in the **X** and **Y** boxes to set the position of your gradient in the frame. Double-click the point to reset it. Hold Ctrl (Windows) or ⌘ (OS X) to adjust the point in fine increments.
Angle	Type a value in the box or drag the slider to adjust the angle of the line formed by the control points in relation to a horizontal plane.
Control Point	
Distance	Type a value in the box or drag the slider to adjust the distance of the control point from the center.
Location	The drop-down list displays the current position of the control point in the frame. Click to display an edit control you can use to position the point.  You can drag the point in the edit control or type values in the **X** and **Y** boxes to set the position of your control point in the frame. Double-click the point to reset it. Hold Ctrl (Windows) or ⌘ (OS X) to adjust the point in fine increments.
Color	Click the color sample to display a color picker, where you can choose the color you want to display at the selected control point.
Remove	Removes the selected control point.
Add	Adds a new gradient control point.

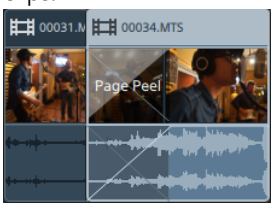
Using video transitions

You can use video transitions to control how a video event begins or ends, or to change the way one event flows into another.

1. Select the clip where you want to add a transition.
2. Click the **Plug-Ins** button at the top of the Catalyst Edit window to display the Plug-Ins pane.
3. Expand the Video Transitions heading.
4. Click a transition to select it.
5. Click the **Set Transition In** or **Set Transition Out** button to add the selected transition to the beginning or end of the selected clip.

   When two clips overlap, add the transition to the beginning of the second clip to set the transition for the overlapping area.

   You can also drag a transition from the Plug-Ins pane to the overlapping area between two clips.

6. Use the Fade Tool to adjust the transition length. For more information, see "Clip fades" on page 81.
7. Use the controls in the Clip Inspector to adjust the transition's settings.

   For more information, see "Using the Clip Inspector" on page 86.

   Click the **Mute** button to bypass a plug-in.

   Click the **Delete** button to remove a plug-in.

Creating a picture-in-picture effect

The Picture in Picture effect allows you to resize and position clips for picture-in-picture compositing.

Creating the inner picture

1. Create two tracks in your project. For more information, see "Adding tracks to a project" on page 43.
2. Add clips to your tracks:
   - The top track will contain the smaller, inner picture.
   - The bottom track will contain the background clip.

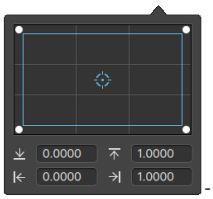
   For more information, see "Adding media and creating clips" on page 35.
3. Click the top track to select it.
4. Click the **Track** button below the timeline and choose **Picture in Picture**. The controls for the Picture in Picture plug-in are displayed in the Track Inspector.

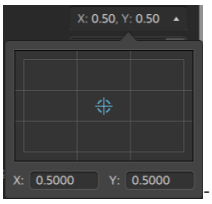
Editing picture in picture settings

1. Select the track that contains the top clip.
2. Click the Inspector button to show the Inspector pane.

3. In the Inspector, select the Track tab to view and edit settings for the Picture in Picture plug-in. Use the Picture in Picture plug-in to adjust the size and position of the top clip.

   For more information, see "Using the Track Inspector" on page 52.

Item	Description
Location	The drop-down list displays the current position of the video in the frame. Click to display an edit control you can use to position your video.  You can drag the point in the edit control or type values in the **X** and **Y** boxes to set the position of your video in the frame. Double-click the point to reset it. You can drag the corners of the rectangle in the edit control or type values in the edit boxes to set the position of each corner of the background in the frame. Drag a corner of the rectangle to preserve aspect ratio while resizing. Hold Shift while dragging the corners of the rectangle to resize and adjust aspect ratio. Hold Alt (Windows) or Option (OS X) to resize the rectangle from the center. Hold Ctrl (Windows) or ⌘ (OS X) to adjust the controls in fine increments. When a corner is selected, you can use the arrow keys to adjust the selected corner, or press Ctrl (Windows) or ⌘ (OS X) + the arrow keys to adjust in fine increments. Drag the edges of the rectangle to resize the rectangle. Drag an edge of the rectangle to preserve aspect ratio while resizing. Hold Shift while dragging an edge to resize and adjust aspect ratio. Hold Alt (Windows) or Option (OS X) to resize the rectangle from the center. Hold Ctrl (Windows) or ⌘ (OS X) to adjust the controls in fine increments. Drag the center of the rectangle to move without resizing, or double-click the point to reset it. Hold Shift while dragging to constrain to horizontal/vertical/45-degree movement. Hold Ctrl (Windows) or ⌘ (OS X) to adjust the controls in fine increments. When the rectangle is selected, you can copy the position of the rectangle to paste to another clip.
Rotation	Type a value in the box or drag the slider to rotate the video in the frame.

Item	Description
Flip horizontal	Click to invert the video horizontally.
Flip vertical	Click to invert the video vertically.
Opacity	Type a value in the box or drag the slider to adjust the opacity of the top image. As you decrease the opacity, video from lower tracks will show through the foreground.
Shadow	
Type	Choose a setting from the drop-down list if you want to display a shadow over or behind the foreground image.
Offset	The drop-down list displays the current position of the shadow relative to the foreground image. Click to display an edit control you can use to position your shadow.  You can drag the point in the edit control or type values in the **X** and **Y** boxes to set the position of your shadow in the frame. Double-click the point to reset it. Hold Ctrl (Windows) or ⌘ (OS X) to adjust the point in fine increments.
Rotation	Type a value in the box or drag the slider to rotate the shadow in the frame.
Scale	Type a value in the box or drag the slider to adjust the size of the shadow.
Blur	Type a value in the box or drag the slider to feather the edges of the shadow.
Opacity	Type a value in the box or drag the slider to adjust the opacity of the shadow. As you decrease the opacity, video from lower tracks will show through the foreground.
Glow	
Type	Choose a setting from the drop-down list if you want to display a glow effect over or behind the foreground image.
Amount	Type a value in the box or drag the slider to adjust the size of the glow effect.
Color/Second color	Click the color sample to display a color picker, where you can choose a color or type color values to set the shadow color. You can also adjust the transparency (alpha value) of the shadow.

Animating video parameters with keyframes

Keyframes define the state of an effect's parameters for a specified point on the timeline. The settings for intermediate frames are interpolated to create smooth animation.

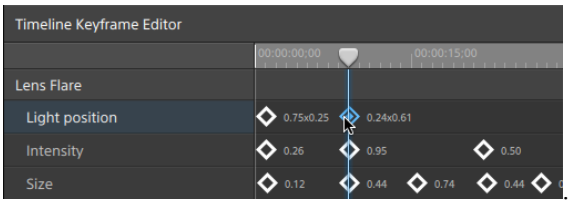
You can click the **Keyframe Editor** button at the bottom of the Inspector to switch the timeline to keyframe mode, where you can edit parameters for individual keyframes.

Adding keyframes

In the Inspector window, each parameter that can be automated displays a **Keyframes** button. Select the button to create a row in the keyframe editor for that parameter.

1. Add an effect to your project. For more information, see "Using video effects" on page 91.
2. Select the track or clip where you added the effect and click the Timeline Inspector, Track Inspector, or Clip Inspector.
3. Select the effect in the Timeline Inspector, Track Inspector, or Clip Inspector.
4. In the Inspector, select the **Keyframes** button for the parameter you want to animate. An initial keyframe is created, and the timeline switches to keyframe mode.

   Notice that the keyframe editor includes a row for each keyframed parameter

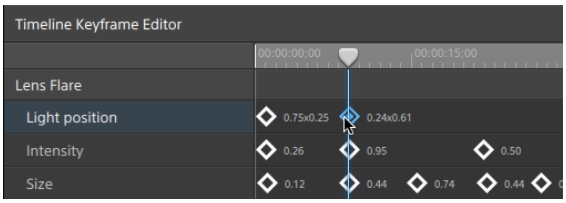
   

5. In the keyframe editor, click to position the cursor where you want to add a keyframe

   You can also double-click the keyframe editor to add a keyframe or click the **Add** button in the toolbar below the keyframe editor.
6. In the Inspector, adjust the parameter's control as needed. A keyframe is added to the keyframe editor.
7. Click the **Keyframe Editor** button at the bottom of the Inspector to exit keyframe mode when you're finished editing.

Editing keyframes

1. Click a keyframe to select it. The keyframe's current value is displayed in the keyframe editor.



Click the **Previous** or **Next** button in the toolbar below the keyframe editor.

2. In the Inspector, adjust the parameter's control as needed. The selected keyframe is updated.

Moving keyframes

You can drag a keyframe in the keyframe editor to change its position on the timeline.

Removing keyframes

Select a keyframe in the keyframe editor and press Delete to remove it from the timeline or click the **Remove** button in the toolbar below the keyframe editor..

Chapter 8

Working with audio

Catalyst Edit provides a flexible audio workflow. You can create mono, stereo, or multichannel projects and use each track's audio controls to adjust your mix precisely.

Audio volume and panning

Catalyst Edit allows you to adjust the audio mix of your project by controlling the overall volume of the project, adjusting volume and panning for each track, and adjusting volume for each clip.

Adjusting your project volume

The **Gain** fader in the Timeline Inspector controls the overall volume of your project.

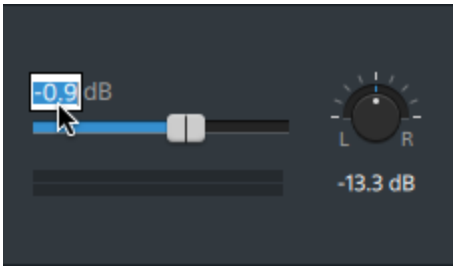
As you drag the fader, the meters in the Timeline Inspector and in the activity pane at the top of the Catalyst Edit window are updated.

For more information, see "Using the Timeline Inspector" on page 13 and "Monitoring audio levels" on page 118.

Adjusting track volume and panning

Each track provides controls to adjust the volume that is sent to the project's main output.

The **Volume** fader in the track header controls the volume of the track, and the **Pan** knob adjusts the position of the track in the stereo field.



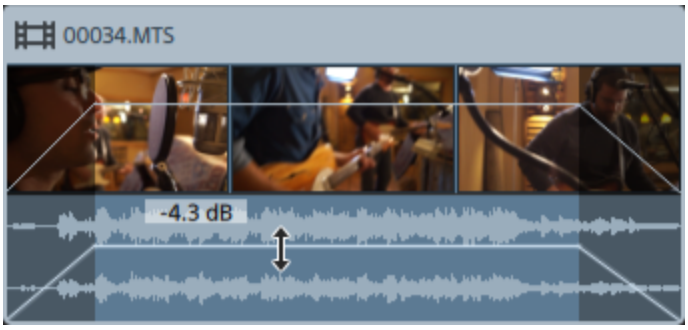
The Track Inspector also provides access to the track **Volume** fader and **Pan** knob and allows you to change the panning model that is used for the track.

As you drag the fader and knob, the meters in the Track Inspector display the levels for the current track, and the meters in the activity pane at the top of the Catalyst Edit window display the overall project levels.

For more information, see "Adjusting track controls" on page 49, "Using the Track Inspector" on page 52, and "Monitoring audio levels" on page 118.

Adjusting clip volume

Each clip provides controls to adjust the volume that is sent to the track.

You can use the Fade Tool to adjust the clip's gain:

The Clip Inspector also provides access to the clip level via the **Gain** fader.

For more information, see "Clip fades" on page 81, "Using the Clip Inspector" on page 86, and "Monitoring audio levels" on page 118.

Working with multichannel audio

Catalyst Edit makes it easy to use your camera audio and incorporate audio from other sources into your project.

- The Audio and Channel Output controls in the Timeline Inspector allow you to specify the number of audio channels for your project.
- The Audio controls in the Track Inspector allow you to adjust levels and panning for each channel.
- The Channel Assignment controls in the Clip Inspector allow you to configure how the clip's audio channels feed the track's audio channels.

Setting up the project timeline audio channels

1. Click the **Inspector** button to show the Inspector window (if it isn't already visible) and click the Timeline tab.
2. Choose a setting from the **Channel setup** from the drop-down list to choose whether you're creating a mono, stereo, or multichannel project.

   If you choose **Multichannel**, type a number in the **Channel count** box to set the number of channels to create a multichannel project.

3. Use the Channel Output controls to set up the timeline's channels.

   a. Click the speaker icon to turn a channel on or off .

      Turning a channel off mutes it during playback and rendering. For example, if you were preparing an eight-channel project with English dialog on channels 1 & 2, French dialog on channels 3 & 4, Spanish dialog on channels 5 & 6, and music on channels 7 & 8, you could turn off dialog channels to preview your project and then turn the channels on when you render your final eight-channel file for delivery. For more information, see "Rendering projects" on page 16.

   b. Click the **Mono/Stereo** button to indicate whether a channel is a mono channel or part of a stereo pair. Enabling **Stereo** will pair the channel with the next channel in the list.

   c. Type a name in the edit box to identify the channel. For example, you might type **Lav1** to identify audio from a lavalier microphone.

      Channels that are named identically in the Timeline Inspector and Clip Inspector will be matched.

      When you add a clip from a Catalyst Prepare library ( ) to the Catalyst Edit timeline, any channel assignment settings that you made in the Catalyst Prepare library will be applied to the clip.

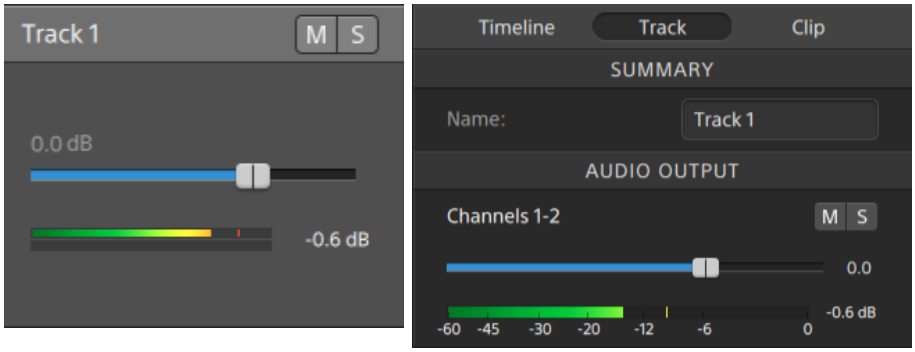
   For more information, see "Using the Timeline Inspector" on page 13.

Setting up a track's audio channels

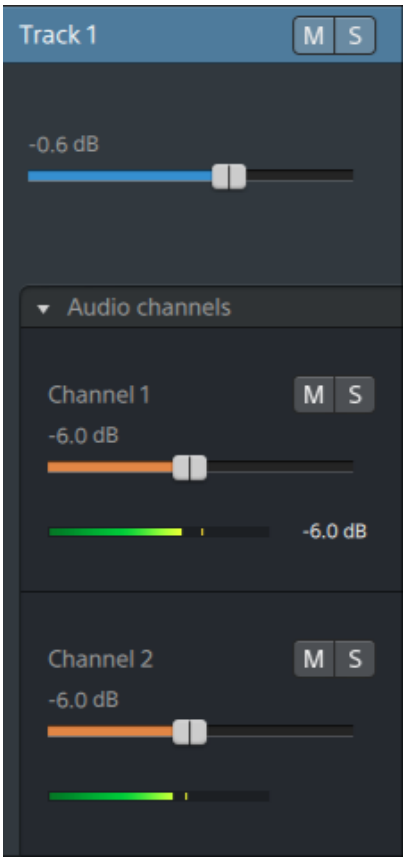
1. Click a track header to select the track you want to edit.
2. The track header and the Track Inspector provide controls you can use to mix the track for your project's output.

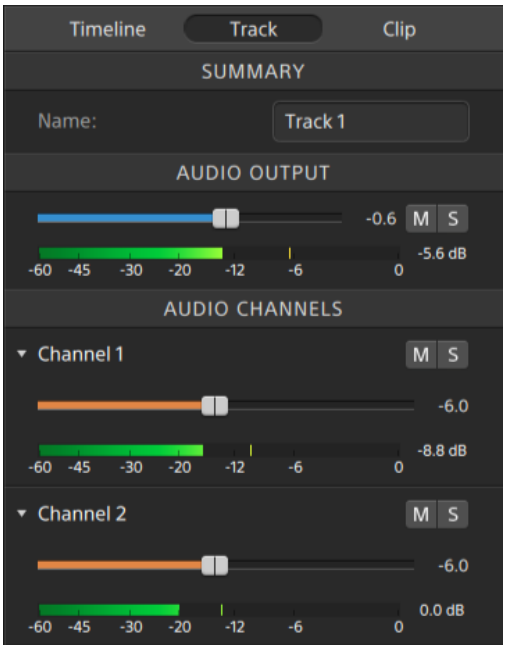
   For more information, see "Adjusting track controls" on page 49 and "Using the Track Inspector" on page 52.

   - If the Timeline Inspector is set for a mono project, each track will display a blue **Volume** fader you can use to adjust the overall level of the track and **Mute** and **Solo** buttons you can use to mute or solo the track.



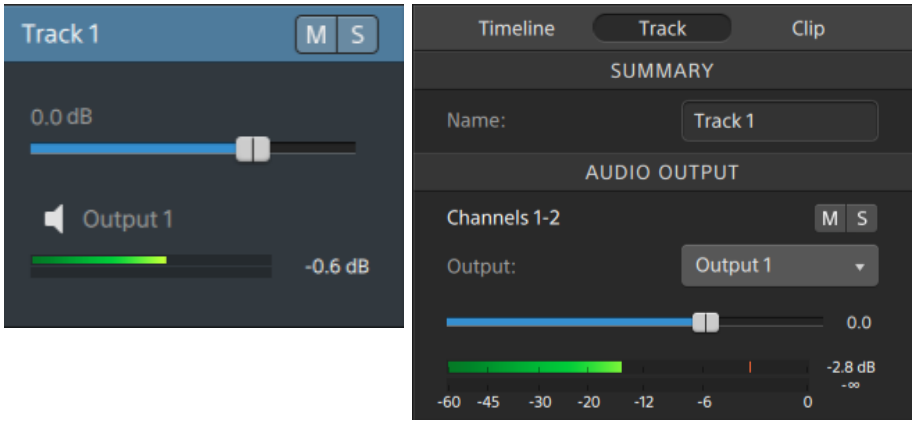
Additionally, if the track contains clips that have multiple channels assigned on the Clip Inspector, each channel provides an orange **Volume** fader you can use to adjust the channel's contribution to the level of the track and **Mute** and **Solo** buttons you can use to mute or solo the channel.





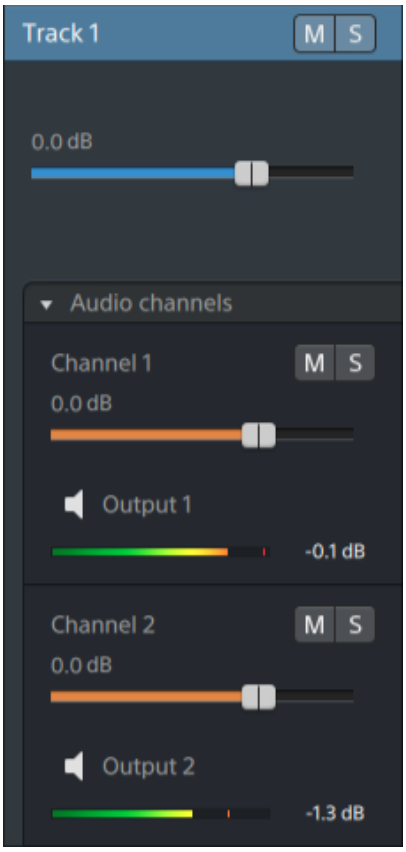
- If the Timeline Inspector is set for a stereo project, each track will display a blue **Volume** fader you can use to adjust the overall level of the track and **Mute** and **Solo** buttons you can use to mute or solo the track.

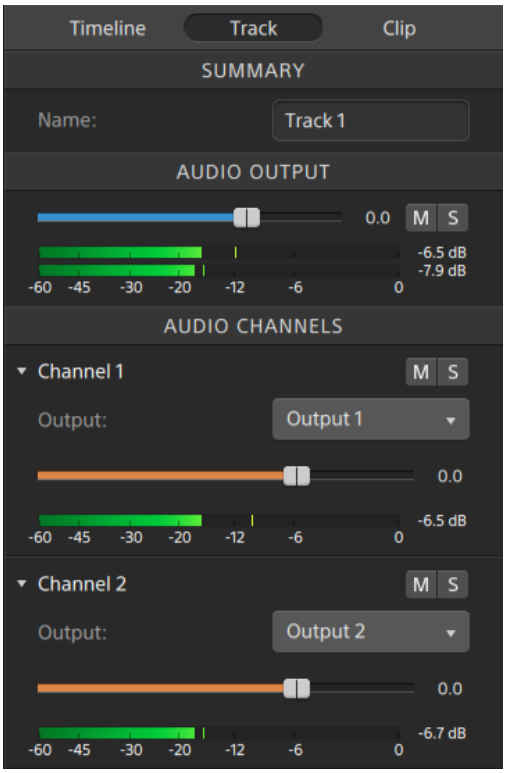
  If the timeline outputs are stereo, each track provides a **Pan** control that you can use to pan the track to the timeline outputs. If the timeline outputs are mono, each track provides an **Output** control that you can use to assign the track to the timeline outputs.



  Additionally, if the track contains clips that have multiple channels assigned on the Clip Inspector, each channel provides an orange **Volume** fader you can use to adjust the channel's contribution to the level of the track and **Mute** and **Solo** buttons you can use to mute or solo the channel.

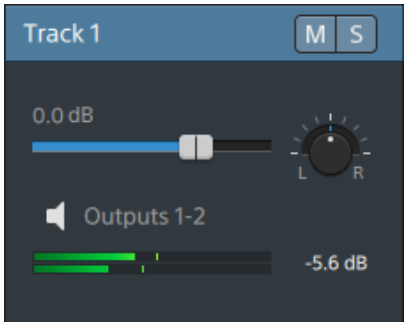
  If the timeline outputs are stereo, each channel provides an orange **Pan** control that you can use to pan the channel to the timeline outputs. If the timeline outputs are mono, each channel provides an **Output** control that you can use to assign the channel to the timeline outputs.

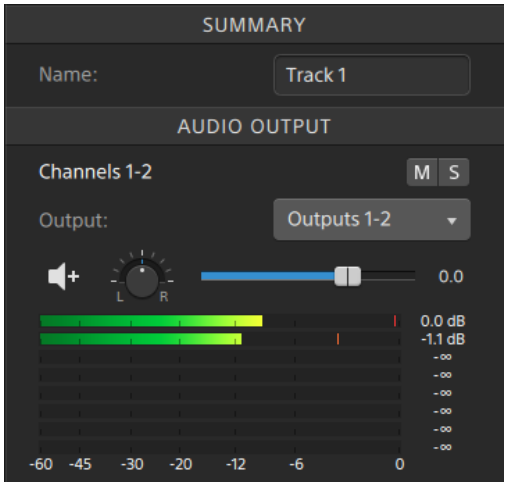

Track 1
M
S
0.0 dB
Audio channels
Channel 1
M
S
0.0 dB
Output 1
-0.1 dB
Channel 2
M
S
0.0 dB
Output 2
-1.3 dB


Timeline
Track
Clip
SUMMARY
Name:
Track 1
AUDIO OUTPUT
0.0
M
S
-6.5 dB
-7.9 dB
-60 -45 -30 -20 -12 -6 0
AUDIO CHANNELS
Channel 1
M
S
Output:
Output 1
0.0
-6.5 dB
-60 -45 -30 -20 -12 -6 0
Channel 2
M
S
Output:
Output 2
0.0
-6.7 dB
-60 -45 -30 -20 -12 -6 0

- If the Timeline Inspector is set for a multichannel project, each track will display a blue **Volume** fader you can use to adjust the overall level of the track, **Mute** and **Solo** buttons you can use to mute or solo the track, and an **Output** control that you can use to assign the track to the timeline outputs.

  If the timeline outputs are stereo, each track provides a **Pan** control that you can use to pan the track to the timeline outputs.





  Additionally, if the track contains clips that have multiple channels assigned on the Clip Inspector, each channel provides an orange **Volume** fader you can use to adjust the channel's contribution to the level of the track, **Mute** and **Solo** buttons you can use to mute or solo the channel, and an **Output** control that you can use to assign the channel to the timeline outputs.

  If the timeline outputs are stereo, each channel provides an orange **Pan** control that you can use to pan the channel to the timeline outputs.

When adjusting volume, remember to watch your audio meters. Because you are adding the volumes of all of the tracks together, it is easy to clip the audio output. Make sure that the meters never display the red Clip indication during playback. For more information, see "Monitoring audio levels" on page 118.

The meters in the Track Inspector show audio levels for the selected track and each of the channels that contributes to the track.

The meter in the activity pane at the top of the Catalyst Edit window shows the sum of all audio at the cursor position.

Assigning a clip's audio channels

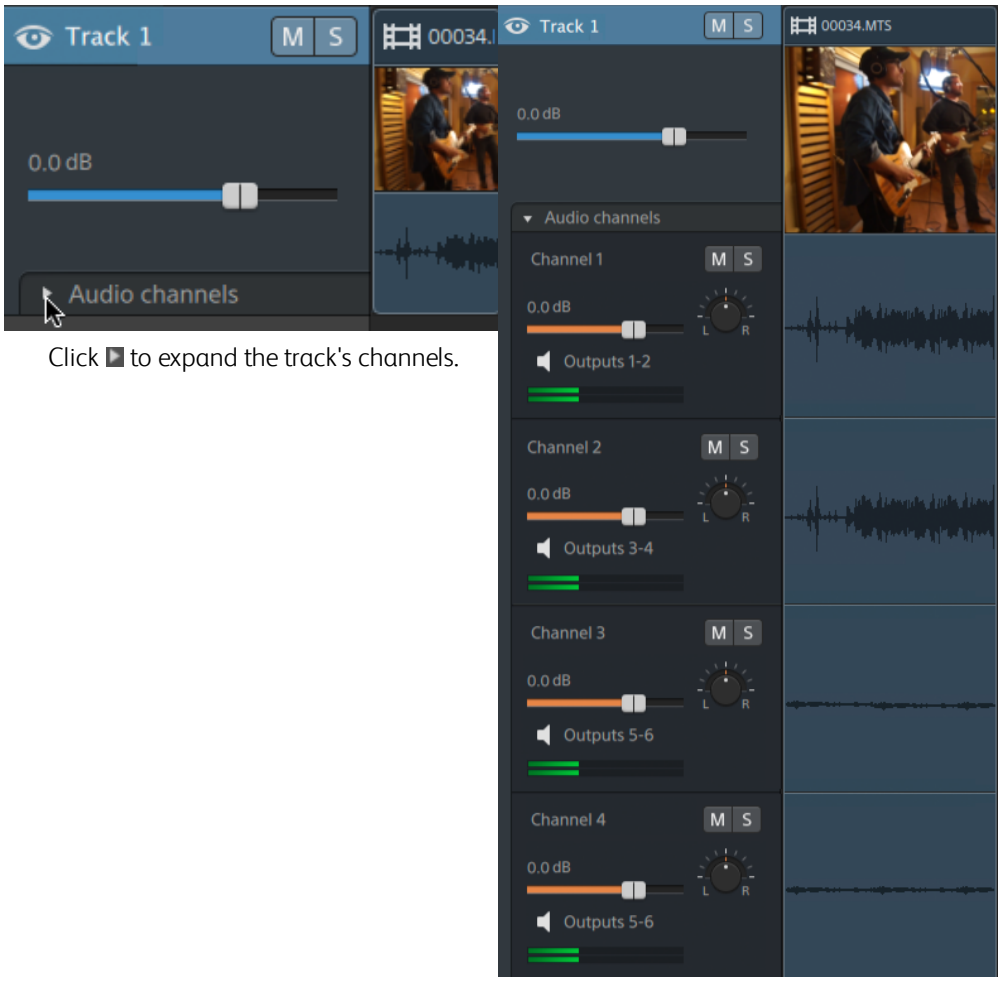
1. Select the clip you want to edit. For more information, see "Selecting clips and positioning the cursor" on page 61.

2. Click the **Inspector** button to show the Inspector window (if it isn't already visible) and click the Clip tab.

3. Use the controls in the Channel Assignment section to set up the clip's audio:

   a. Click the speaker icon to turn a channel on or off .

      Each channel will be displayed in a separate lane in the timeline.



Click ▶ to expand the track's channels.

   b. Click the **Mono/Stereo** button to indicate whether a channel is a mono channel or part of a stereo pair. Enabling **Stereo** will pair the channel with the next channel in the list.

      Mono channels will not display a **Pan** control in the track header. For more information, see "Adjusting track controls" on page 49.

   c. Type a name in the edit box to identify the channel. For example, you might type **Lav1** to identify audio from a lavalier microphone.

      When multiple clips on a track use the same channel names, those channels will be matched.

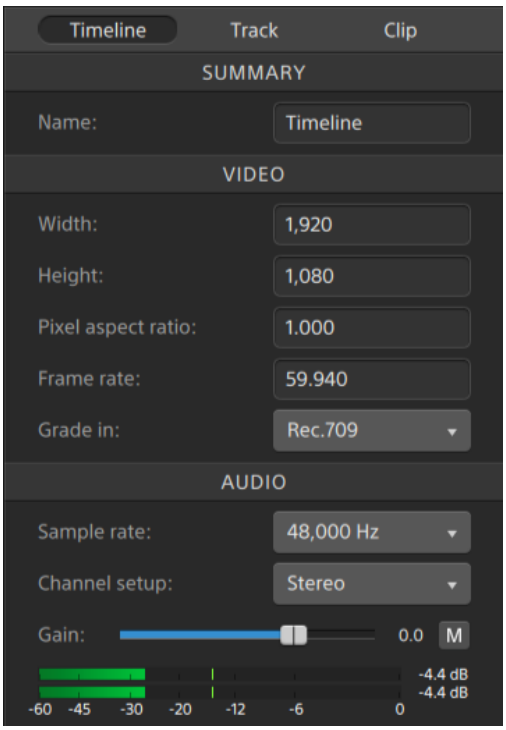
The channels that you assign on the Clip tab will be available on the Track tab.

Monitoring audio levels

You can use meters to monitor the audio levels in your project and to ensure that the audio signal is not clipped.

Timeline meter

The meters in the activity pane at the top of the Catalyst Edit window and in the Timeline Inspector display instantaneous levels during playback to help you determine the loudest level in your audio signal and whether the signal is clipping. This peak level represents the sum of all audio at the cursor position.



- During playback, the bars represent the peak audio level at the cursor for each channel.
- The peak level is displayed at the end of the meter.
- If the signal exceeds 0.0 dB, the meters display a red clipping indicator. You can click the clipping indicator to reset it.

The peak level and clipping indicators are reset when you start playback.

Track meter

The meters in the track header and Track Inspector show audio levels for the selected track.

When a track has multiple channels, separate meters are displayed for each channel.

For more information, see "Adjusting track controls" on page 49 and "Using the Track Inspector" on page 52.

Editing Catalyst Edit options

Click the **Options** button to edit your application options.

Choosing an audio playback device

Choose a setting from the **Audio device** drop-down list to choose the audio output device that will be used for playback.

Choose **Microsoft Mapper** (Windows) or **System Default** (OS X) if you want to use the operating system's default playback device, or choose another compatible audio device from the drop-down list to use a specific device.

If you switch the audio device during playback, playback will pause and resume automatically.

(Windows only) If a device is not available, it will be listed as offline in the **Audio Device** drop-down list. After you reconnect the device, choose the device again, and its status will be updated.

Choosing a video processing device

Choose a setting from the **Video processing device** drop-down list to enable or bypass GPU-accelerated video playback.

Choose **CPU** if you want to turn off GPU acceleration, or choose a device from the list to enable GPU-accelerated playback.

The optimal GPU device is automatically selected. Changing this value is intended for advanced users and may be useful for troubleshooting technical problems.

Computers equipped with CPUs that utilize Intel's Quick Sync Video (QSV) technology see improved processing performance for decoding H.264/AVC/MPEG-4 video files.

Choosing an external video monitor

Choose a setting from the **External monitor device** drop-down list to display your video preview on an external monitor via a Blackmagic Design DeckLink, Intensity Pro, or UltraStudio device.

Choose a setting from the **Monitor resolution** drop-down list to choose the display resolution for your monitor.

Chapter 10

Keyboard shortcuts

Shortcut keys can help streamline your work with Catalyst Edit software. The available shortcut keys are arranged in tables according to function.

Global shortcuts

Command	Windows Shortcut	OS X Shortcut
Show/hide the Media Browser	Ctrl+B	⌘-B
Show/hide the Inspector	Ctrl+I	⌘-I
Open application help	F1	Fn-F1 (F1 if the **Use all F1, F2, etc. keys as standard function keys** setting is selected)

Project file shortcuts

Command	Windows Shortcut	OS X Shortcut
Create project	Ctrl+N	⌘-N
Open project	Ctrl+O	⌘-O
Save project	Ctrl+S	⌘-S
Save project as	Ctrl+Shift+S	Shift-⌘-S

General editing

Command	Windows Shortcut	OS X Shortcut
Undo	Ctrl+Z	⌘-Z
Redo	Ctrl+Shift+Z Ctrl+Y	Shift-⌘-Z

Media Browser

The following keyboard shortcuts are available when the Media Browser pane has focus.

Command	Windows Shortcut	OS X Shortcut
Navigate files/folders	Up, Down, Left, or Right Arrow	Up, Down, Left, or Right Arrow
Open/close folder in tree view	Right/Left Arrow	Right/Left Arrow
Delete selected files	Delete	Delete or fn+Delete
Load file and start/pause playback	Spacebar	Spacebar
Open selected folder	Enter or Ctrl+Down Arrow	Return or ⌘-Down Arrow
Navigate up one level	Backspace	Delete or ⌘-Up Arrow
Set mark in point	I	I
Set mark out point	O	O
Go to mark in/out point	Home End	Home or Fn- Left Arrow End or Fn- Right Arrow
Go to start/end of clip	Ctrl+Home Ctrl+End	⌘-Home ⌘-End
Go to previous/next point (beginning, mark in/out, end)	Ctrl+Left Arrow Ctrl+Right Arrow	⌘-Left Arrow ⌘-Right Arrow
Move selection up/down one page	Page Up Page Down	Page Up Page Down

Playback and preview

The following keyboard shortcuts are available when the Video pane has focus.

Command	Windows Shortcut	OS X Shortcut
Go to start	Home	Home Fn- Left Arrow
Go to end	End	End Fn- Right Arrow

Command	Windows Shortcut	OS X Shortcut
Move one pixel left	Left Arrow	Left Arrow
Go to previous frame	Alt+Left Arrow	Option-Left Arrow
Move one pixel right	Right Arrow	Right Arrow
Go to next frame	Alt+Right Arrow	Option-Right Arrow
Move to previous/next ruler division	Page Up Page Down	Page Up Page Down
Start/pause playback (when any window has focus)	Ctrl+ Spacebar F12	Option-Spacebar
Start/pause playback (when the timeline has focus)	Spacebar	Spacebar
Start/stop playback (when any window has focus)	Ctrl+ Enter	Option-Return
Start/stop playback	Enter	Return
Shuttle playback	J/K/L Press J or L once for 1x playback. Press J or L twice for 1.5x playback. Press J or L three times for 2x playback. Press J or L four times for 4x playback. Press K to pause playback. Press and hold K while pressing J or L to emulate a shuttle knob mode: press K+J to turn the knob to the left or K+L to turn the knob to the right.	
Toggle looped playback	Q Ctrl+L	Q ⌘-L
Set Mark In point	I	I
Set Mark Out point	O	O

Timeline editing

The following keyboard shortcuts are available when editing clips on the timeline.

Command	Windows Shortcut	OS X Shortcut
Move selected clips left/right	Numeric Keypad 4/6	Numeric Keypad 4/6
Slip trim selected clips one pixel left/right	Alt+Numeric Keypad 4/6	Option-Numeric Keypad 4/6
Switch to the Edit Tool (when timeline or video preview has focus) Hold E to switch to the Edit Tool temporarily. When you're finished editing, release the E key, and the previous editing tool will be restored. For more information, see "Editing tools" on page 59.	E	E
Switch to the Roll Trim Tool (when timeline or video preview has focus) Hold R to switch to the Roll Trim Tool temporarily. When you're finished editing, release the R key, and the previous editing tool will be restored.	R	R
Switch to the Select Tool (when timeline or video preview has focus) Hold C to switch to the Select Tool temporarily. When you're finished selecting clips, release the C key, and the previous editing tool will be restored.	C	C
Switch to the Slip Tool (when timeline or video preview has focus) Hold P to switch to the Slip Tool temporarily. When you're finished editing, release the P key, and the previous editing tool will be restored.	P	P
Switch to the Split Trim Tool (when timeline or video preview has focus) Hold T to switch to the Split Trim Tool temporarily. When you're finished editing, release the T key, and the previous editing tool will be restored.	T	T

Command	Windows Shortcut	OS X Shortcut
Switch to the Fade Tool (when timeline or video preview has focus) Hold F to switch to the Fade Tool temporarily. When you're finished editing, release the F key, and the previous editing tool will be restored.	F	F
Switch to the Envelope Tool (when timeline or video preview has focus) Hold V to switch to the Envelope Tool temporarily. When you're finished editing, release the V key, and the previous editing tool will be restored.	V	V
Switch to the Edit Streams mode Hold Shift while dragging the end of the audio or video stream with the Edit Tool, Roll Trim Tool, or Envelope Tool to enable Edit Streams mode temporarily.	Shift+E	Shift-E
Add a track above the selected track	Ctrl+Shift+N	Shift-⌘-N
Add a title clip	Ctrl+T	⌘-T
Add a marker	M	M
Select all clips	Ctrl+A	⌘-A
Copy selected clips	Ctrl+C	⌘-C
Cut selected clips	Ctrl+X	⌘-X
Paste at cursor	Ctrl+V	⌘-V
Delete selected clips	Delete	Delete
Split the selected clip at the cursor	S	S
Zoom in/out (when timeline has focus)	Up Arrow Down Arrow	Up Arrow Down Arrow
Zoom in/out (when timeline has focus)	Ctrl+Mouse Wheel Up/Down Alt+Mouse Wheel Left/Right	⌘-Mouse Wheel Up/Down Option-Mouse Wheel Left/Right
Increase/decrease track height (when timeline has focus)	Ctrl+Shift+Up Arrow Ctrl+Shift+Down Arrow	⌘-Shift-Up Arrow ⌘-Shift-Down Arrow
Scroll vertically	Mouse Wheel Up/Down	Mouse Wheel Up/Down

Command	Windows Shortcut	OS X Shortcut
Scroll horizontally	Shift+Mouse Wheel Up/Down	Shift+Mouse Wheel Up/Down
	Mouse Wheel Left/Right	Mouse Wheel Left/Right
Toggle snapping	F8	F8
Toggle snapping to all clips	Ctrl+Shift+F8	Shift-⌘-F8

Chapter 11

Gestures

Media Browser pane

Gesture	Result
Tap	Selects and loads a file.
Double-tap	Opens a file in the Video pane.
One-finger drag (touchscreen) Two-finger drag (trackpad)	Scrolls the list vertically.
One-finger flick (touchscreen) Two-finger flick (trackpad)	Scrolls the list with inertia.

Timeline

Gesture	Result
Tap	Selects clips or sets the cursor position.
⌘-One-finger vertical drag (Magic Mouse- OS X only) ⌘-Two-finger vertical drag (Magic Trackpad - OS X only)	Zooms the timeline horizontally.
Two-finger vertical drag (trackpad)	Scrolls the timeline vertically.
Single-finger left/right swipe (Magic Mouse - OS X only) Two-finger left/right swipe (Magic Trackpad - OS X only)	Scrolls the timeline horizontally.
Single-finger clip drag on trackpad (Windows 8) Three-finger clip drag on trackpad (OS X only)	Moves clip.
Single-finger timeline or cursor drag on trackpad (Windows 8) Three-finger cursor drag (Magic Trackpad - OS X only)	Scrub timeline.

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